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Dissertations

1851

Dissertations
by the
Candidates for Degrees and Licenses,
in the
Medical Institution of Yale College,
read at the
Annual Examinations,
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Dissertations, 1850-51.

- I Warren Parker Beach,
On "Pneumonia".
- II George Benedict, B. A.
On "Pneumonia".
- III Orlando Brown,
On "Scrophula".
- IV David Silliman Burr,
On "Pleurisy".
- V Samuel Catlin,
On "Inflammation".
- VI Henry Eddy, M. A.,
On "Emetics".
- VII Francis Coles Greene,
On "Apoplexy".
- VIII Storrs Hall, M. A.,
On "Ventilation".
- IX Jonathan Jones Howard,
On "Ophthalmia".
- X Robert Hubbard,
On "Bright's Disease".

VI Matthew Turner Newton

Uterine Hemorrhage After Delivery.

XII William Soule

Hysteria

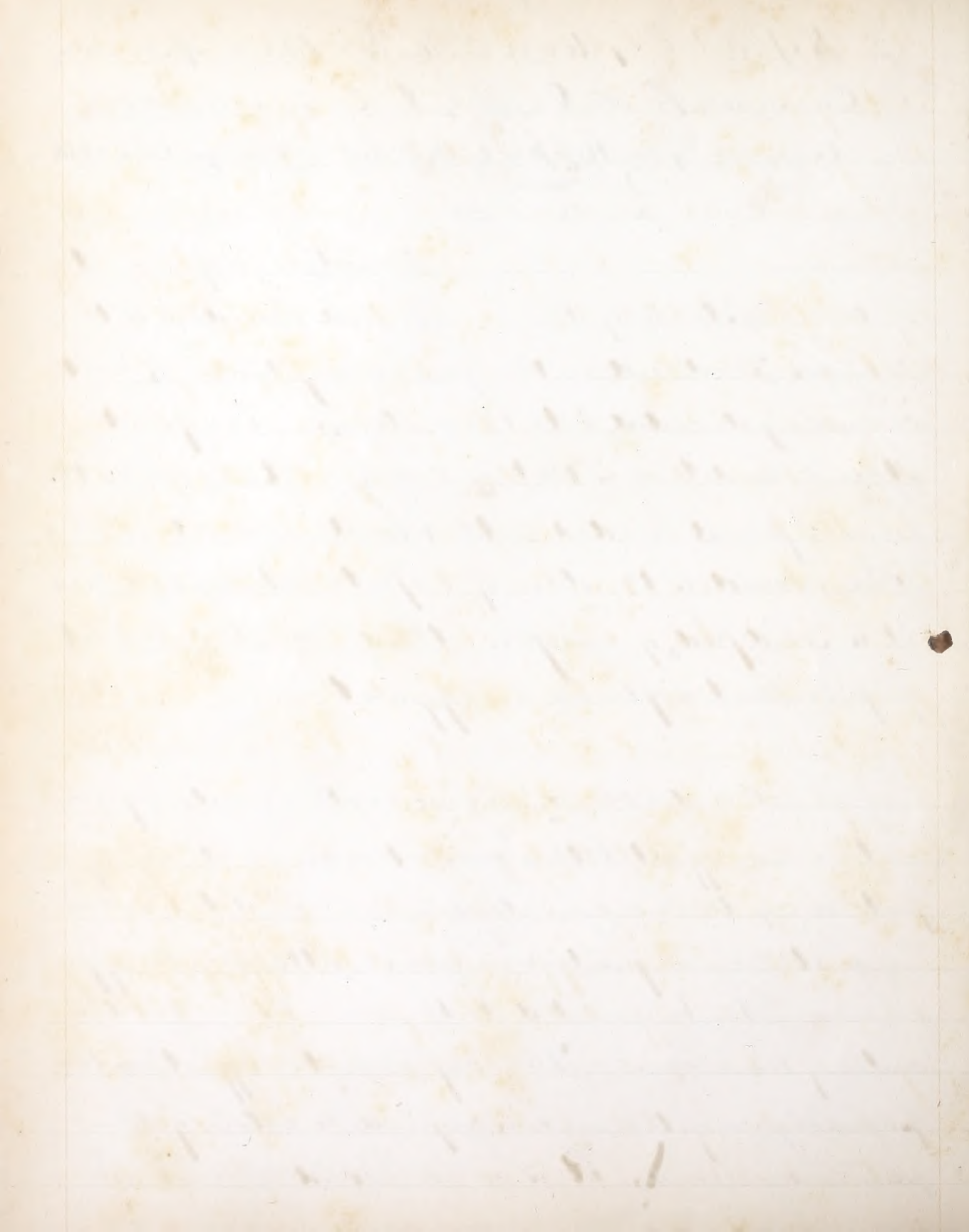
I.
Dissertation by Warren Parker Beach, of Medford,
Candidate for the Degree of Doctor in Medicine,
Examined by the Professors in Med. Inst. of Y. College, Oct. 1. 1850.
ON Pneumonia

consists in inflammation

of the substance of the lungs; and according to the changes produced in the pulmonary tissue, is most commonly divided into three stages. The first stage or condition is that of engorgement; in which the lung is found loaded with blood or bloody serum. The second is the stage of hepatization, in which it is solidified ^{by the effusion} of lymph; the third stage is that of purulent softening, or suppuration.

Pneumonia

may be either double or single; in other words, inflammation may affect both organs at once, or it may affect one of them alone. Again, in one and the same lung, it may be partial or general, attacking the upper or lower lobe. be limited to the base, the root, or the centre of the organ. When inflammation affecting the parenchyma of the lungs is confined to certain of the pulmonary lobules, it is called accordingly; lobular pneumonia.



It has been asserted by some that all these different seats of pneumonia have been equally frequent; but this opinion I believe is rejected by most if not by all modern authors. Some numerical results would seem to settle the question that pneumonia does not affect all parts or both sides indifferently, it is stated Dr. Watson greatly more common on the right side of the body than on the left. The following is a statistical statement collected by Virchow in respect to this point.

"Out of 310 cases of pneumonia there were, on the right side 121 on the left 58 both sides 25. cases where the seat could not be detected 6. Now at this rate pneumonia occurs on the right side twice, when it affects the ^{left} once, and does not affect both sides together so often as once in eight times."

again with regard to that portion of the lung which is most obnoxious to inflammation, there are great differences. It has been supposed that the upper pulmonary lobes are seldom affected with inflammation, but this opinion it would seem is not correct. the upper lobes are frequently affected, but it is well known says Dr. Watson that the lower lobes are more liable to inflammation than the upper.

Morgagni, Frank and Broupaz, who draw their conclusions from dissections, state that the upper lobes are most frequently the seat of inflammation.

Samuel and Andral on the other hand, who included cases of recovery in their calculations, found the lower lobes most commonly inflamed. This discrepancy may be reconciled since Dr. Williams is assigning as the cause of it the fact, that inflammation of the upper lobes is the most frequently fatal.

Pneumonia as it generally occurs presents the following symptoms: viz pain or stitch in the side - dyspnea - viscid and bloody sputa - dull sound on percussion, and indistinctness or absence of the respiratory murmur, the patient lies on the sound side or back - the pulse strong, hard, and frequent, but subject to variations in its character - The fever is generally of the inflammatory kind.

Of the pain - the pain may have its seat (in different cases) in any part of the chest, but it is more commonly experienced about the sixth & seventh ribs, between their middle and sternal extremities; sometimes the pain is exquisitely

acute, and during inspiration almost intolerable; at other times it is more obtuse, giving the sensation of weight rather than pain, and in some cases the patient experiences no pain at all. In some instances the pain precedes by several days the other symptoms, in which case it is neither accompanied by fever, cough, nor dyspnoea; it simulates a pleurodynia or Rheumatic pain, It is generally aggravated by a full inspiration, by cough, by sudden changes ~~than~~ of position, by percussion and by lying on the affected side

Of the dyspnoea
dyspnoea is one of the most constant symptoms of pneumonia; it generally bears a direct ratio to the severity and extent of the inflammation. To this rule however there are many exceptions, for as pneumonia may exist without pain; so also it may occur without dyspnoea, so that the degree of dyspnoea experienced by the patient is not in all cases a certain measure of the seriousness and extent of the inflammation.

It appears ceteris paribus, that inflammation of the upper lobes causes greater dyspnoea than an equally extensive inflammation of the lower lobes; the dyspnoea experienced in pneumonia varies very much in different



cases, it is so slight in many instances when it exists, that the patient scarcely complains of it; in other cases it is so severe and distressing that the patient seems unconscious of all that is passing around him, and is wholly occupied with sighing; his face now expresses great anxiety, the nostrils are dilated, the lips are livid, the respiratory movements are very frequent and short, as if the air could not penetrate beyond the primary divisions of the bronchi: few patients recover when the difficulty of breathing is thus extreme.

Of the Sputum

At the commencement of pneumonia there is either no expectoration at all, or the matter spat up is simply catarrhal; but as the small crepitation (which occurs about the second or third day) becomes marked, the sputa assume their characteristic form; it becomes bloody, i.e. it is composed of mucus intimately combined with blood: not streaked with blood as in bronchitis: neither has it the appearance of the blood ejected in hæmoptysis, which is pure or nearly so. The peculiar appearance or colour of the sputa is determined by the quantity of blood present: they are either yellow, of the colour of rust, or of a

marked red. The sputa at this period of the disease are tenacious and viscid, adhering together so as to form a homogeneous mass; but they are not yet sufficiently viscid to adhere to the sides of the vessel.

"So long as they flow readily along the sides of the vessel when it is tilted," says Dr. Watson "so long have we reason to hope, that the inflammation of the lung does not pass its first degree" but the sputa frequently acquire a very great degree of viscosity; so that they are no longer detached from the vessel when it is inverted, we have reason to fear when this is the character of the matter expectorated, that the disease has reached its second stage. As the sputa increase in viscosity, the chest when percussed yields a duller sound and the vesicular breathing is gone altogether, and bronchial respiration has taken its place. The pneumonia is now at its acme, and may remain for a time stationary, or it may subside, or it may go on from bad to worse until it reaches the third stage - That of Suppuration. In this stage of pneumonia the sputum is generally characteristic, it frequently occurs under two forms; the one, as Andral says, resembles

Siguorice water or plum juice, while the other has all the character of true pus. Pneumonia may, and sometimes does, run through its different stages without its existence being made known in any way by the expectoration; which has been perhaps either devoid of character, or altogether absent. Should pneumonia pass through its several stages and at length terminate in gangrene, it would be announced by a greenish or dirty grey colored expectoration and exhaling a fetid odour resembling that which emanates from gangrene of the external parts.

120 The Pulse at the commencement of in most other phlegmasia, is generally strong, hard, and frequent, but when the inflammation is very intense it is sometimes remarkably small and oppressed, and subsides again on blood-letting. Some have observed that in pneumonia the pulse differs on different sides of the body, that it was more obscure on the affected side; whether this is or is not I have had no means of determining. It has been farther observed in regard to this disease, that great frequency of the pulse announces a fatal termination, and that recoveries are rare when the pulse exceeds 130 in a minute. It is sometimes the

case, in the last stages of this affection that the pulse loses its frequency and returns nearly or quite to its normal state, though the respiration becomes more and more accelerated. This is usually a fatal symptom."

Delirium is a symptom which frequently makes its appearance in the course of an attack of pneumonia: it usually occurs during the night; if it is but slight in degree, and only occurs at intervals, it is a symptom of but little importance; but when it assumes a more violent character, it then becomes a more formidable symptom: indicating "that the due aëration of the blood is largely interfered with by the pulmonary affection, and it is a direct evidence that the pectoral mischief is telling through the circulation of venous blood upon the brain."

Cough although it is a very constant ^{attendant} on all inflammations of the thoracic viscera, yet in pneumonia it has no particular ^{character}, and affords but little information. Although it is dry at the outset of the disease, it seldom continues so during its progress, but in a few hours it is attended by the expectoration of

peculiar sputa, which constitutes one of the most certain signs of the presence of pneumonia

Of the Physical Signs.

First Stage - It has been observed by some that an intense purrility of respiration will be found to exist in the affected part for some hours before the peculiar crepitus is heard; but as soon as the first stage is fully developed the natural respiratory murmur loses its clearness; it is obscured or rather mixed to some extent with what is called by Laennec *crepitant rhonchus*, by Dr. Watson minute or small crepitation. This sound has its seat undoubtedly in the air vesicles and is caused by the formation and bursting of minute bubbles in the air cells or as some have supposed by the separation of the adhering walls of the vesicles in inspiration; and resembling observes Dr. Williams the sound caused by rubbing a lock of hair between the thumb and finger close to the ear. This sound (though it may be confined to a small portion at first) denotes engorgement of the lung - and whilst it is heard, it teaches us that the inflammation has not passed its first stage. The sound on percussion is but slightly impaired in the first

stage of pneumonia. But as the engorgement advances and the quantity of air admitted into the inflamed spot of lung is diminished, it becomes more dull over the corresponding part of the chest.

Second Stage of the
pneumonic inflammation continues the lung presents that appearance called by Laennec hepatization. In this condition the air vesicles of the affected portion of lung are obliterated; the lung no longer crepitates on pressure, its specific gravity is increased, it is evidently solid, and its cut surface resembles the cut surface of liver. The large tubes of the bronchi remain pervious, but there is dullness on percussion, bronchial respiration, and a loud resonance of the voice called bronchophony. Now these sounds are most distinct when the inflammation occupies the upper portion of the lung, or that portion called the root. These signs furnish a tolerably accurate measure of the extent or intensity of the disease. The bronchial respiration which specifically marks the second stage of pneumonia is said to resemble the sound produced by blowing through a small quill, and is sometimes so loud as to amount to a whistle.

We may generally hear (at this stage of the disease) in those parts of the inflamed lung that are healthy, Pueric respiration, which is a strong symptom that a portion of the lung is impermeable by air, and that the remaining part is endeavoring to compensate for the deficiency.

Universal dullness on percussion, absence of the respiratory murmur, and resonance of the voice, are symptoms which inform us that the whole lung has become solidified.

Should the patient recover at this stage of the disease the bronchial breathing and the voice disappear and the vesicular murmur begins again to mix with the crepitation and at length supersedes it altogether.

Third Stage

Dr Watson observes that after we have traced the disease through the stage of engorgement and hepatization we possess no means of tracing it farther with any degree of certainty, but when this stage does arrive the diseased lung becomes infiltrated with a purulent matter which at first has some consistency, but soon acquires all the characteristics of common pus.

Abscess - It was formerly supposed, that the formation of an abscess in the lungs as the result of acute or chronic

inflammation was of common occurrence; but a circumscribed collection of pus, surrounded by hepatized lung, as the result of common pneumonia must be an exceedingly rare event; as Jaenke in several hundred dissections of persons died of pneumonia, only found one large Abscess of that sort." When Abscess however does form in an hepatized lung, it will be indicated by the passage of air through a liquid, giving rise to a gurgling sound or cavernous rhonchus, and when the cavity has been emptied of the pus by expectoration, we may hear by applying the ear to the chest, pectoriloquy and cavernous respiration. — The termination of pneumonia in Gangrene (which is very rare) usually proves fatal. The distinctive signs of gangrene are the fetid odour emitted from the diseased lung in respiration and cough; there is also diminished pain; the cheeks become red, the pulse sinks, and the matter expectorated assumes an ichorous appearance; these symptoms are soon followed by a collapse of the features, paleness of the countenance, cold clammy sweat, together with extreme prostration of the vital powers. Thus the patient soon expires.

Autopsic Phenomena.

In the first stage of pneumonia, the stage of engorgement

the lung is infiltrated with a frothy sanguineous serosity it is of a dark red colour externally and crepitates less under pressure than sound lung does. at the same time its cohesion is diminished, for it can be easily broken down when pressed between the fingers. The mucous membrane lining the small bronchi is of a deep red colour. Although the affected portion of lung presents an increase of weight, it will nevertheless almost always float on water.

In the second stage, the lung no longer crepitates on pressure; its specific gravity is now so much increased as to cause it to sink in water; it ~~now~~ presents a red appearance both externally and within, in short it resembles very much the liver; in weight, consistence, and colour; having entirely lost its cellular structure and acquired a granulated appearance, with no extravasated fluid in its substance. Its friability is now so great that a moderate degree of pressure between the fingers is sufficient to reduce it to a reddish pulp.

In the third stage the pulmonary tissue (as in the last) remains dense, solid, and impervious to air, yet it has undergone important changes; the colour, which was red has now become of a straw or sulphur yellow owing to the greater quantity of liquid pus which is present.

The little red granulations which were observed in the second stage have now assumed a whitish or gray appearance; the texture is still more friable than in the last stage, and if the lung is cut, small drops of pus appear on the cut surface, which seem to issue either from the orifice of the capillary bronchi, or from the granulations themselves.

There has been such a discrepancy of opinion in regard to the duration of pneumonia, among those who have had ample means of judging from experience, that it would be almost superfluous for me to say anything on this point. Dr. Watson observes that its duration may be laid upon an average at ten days.

In a table collected by Andral the duration in 112 cases varied from four days to six weeks, but ^{one} only was thus protracted; 23 cases lasted each seven days, and only 15 of the 112 cases continued longer than a fortnight.

It would be equally unnecessary for me to offer any remarks concerning the tendency of pneumonia to form a crisis. I shall therefore merely give the opinion of Prof. Harker, who has for many years been a zealous and successful cultivator of the science of Percussion and Auscultation, and whose opinion is often solicited and universally respected in affections of the Thoracic viscera; he states

that at the expiration of five full days or at the commencement of the sixth, he always expects a crisis in this affection, and that its appearance seldom fails to justify his prognosis-

Of the Causes of pneumonia. Sometimes no cause can be assigned, at others it is evidently the result of exposure to cold, especially when the skin is damp from perspiration. All extremes of weather may act as exciting causes. Plethora, full living, indolence, repelled eruptions, Suppressed exertions &c. have all been ranked among the causes of pneumonia. Those causes which act directly on the lungs, and violent exercise causing the blood to pass rapidly through them; violent coughing, adhesions of the pleura, asthma, hydrothorax &c. may excite inflammation in the lungs.

Diagnosis. There are few diseases whose diagnosis is more simple than that of pneumonia; yet there is no symptom in pneumonia which is not met with in other diseases; few are more frequent than cough, pain in some portion of the chest, obstructed respiration and fevers but when we find these symptoms combined, we may generally be assured of the presence of pneumonia. The diseases with which

pneumonia is most likely to be confounded with Bronchitis, pulmonary edema, and pleurisy; but it will be sufficient here I trust, to mention some of the characteristics by which this disease may be distinguished from pleurisy - The pain in uncomplicated cases of pneumonia is usually moderate and dull; in pleurisy sharp and severe; in the former we have the viscid and rusty sputa, in the latter the expectoration is transparent or simply streaked with blood. Strong pressure made on the abdomen in pneumonia, immediately excites distressing cough, oppression, and a sense of suffocation.

In pleurisy pressure made on the abdomen does not aggravate the pain; the patient lies on the unaffected side or back in pneumonia; in pleurisy, on the affected side. Pressure on the intercostal spaces produces pain in pleurisy; but not in pneumonia. An inflamed lung does not distend the cavity of the chest and obliterate the intercostal depressions; but copious pleuritic effusions most frequently does; in pleurisy the small crepitation of pulmonary inflammation is quite wanting; in pneumonia the friction sound and egophony of pleurisy is absent. On percussion of the chest, dullness may be perceived earlier in pleurisy

than in pneumonia, and in the more advanced stage is more complete in pleurisy the dullness often changes with the position of the patient, which is not the case in pneumonia.

Prognosis. Recovery may almost always be confidently predicted in cases of pneumonia occupying a portion of one lung only, and when it occurs in persons of ^a good constitution and without complication of any kind. - Resolution, which is the only favourable termination of pneumonia, is generally attended with a copious and free expectoration. Increased discharge of urine, general but not profuse perspiration with an abatement of pain, oppression, and cough, are ranked among the favourable symptoms. While severe pain, great oppression, dry cough, or thin dark coloured expectoration; countenance livid, great dyspnoea, weak soft and frequent pulse, delirium, Coma, rattling in the chest, with a disposition to elevate the head and shoulders and bare the breast, are considered unfavourable signs. - Under other heads allusion has been ^{incidentally} made to points which perhaps should have been inserted here, it is however unnecessary to revert to those points again; therefore I pass to the



Treatment of Pneumonia.— The remedies to be employed in the treatment of this affection, are much the same as those employed in other phlegmasia. Venesection, Antimony, and Mercury, are the chief agents more commonly used, and of these (in persons possessing a vigorous constitution) bloodletting is the most efficient remedy.

There is no disease that bears the loss of blood better than pneumonia; general blood-letting in the first place tends to subtrain or extinguish the inflammation as such. In the second place by diminishing the amount of blood we diminish the labour of the lungs, and thus procure rest for the diseased organ, so far at least as this is possible. In deciding upon the quantity of blood to be taken, we must be guided by the stage of the disease, the state of the pulse, and the constitution of the patient. Age and sex are also to be taken into the account.

Venesection will be effectual *ceteris paribus* in proportion as it is early; during the first stage, in a vigorous patient with a strong pulse, from 16 to 20 ounces may be taken at the first operation, or continue the bleeding until some sensible impression is made on the system; until the pulse becomes softer, or if depressed until it becomes

fuller; until the constriction is abated and the dyspnea relieved, or until syncope appears to be at hand.

Should the abatement of the symptoms be but slight we may as a general rule bleed again in the course of a few hours, and it may be necessary to repeat the operation even a third time should the pulse not have been reduced, nor the inflammatory symptoms decidedly checked. Much more might be said on the subject of venesection, but I pass by simply remarking that, in pneumonia, bleeding (where it is indicated) should be performed with determination; at the same time an indiscriminate use of the lancet must be productive of great mischief, by emptying the patient's veins unnecessarily and thereby taking away the strength requisite for the laborious work of respiration and expectoration.

"We want some remedy says Dr. Hutton to assist the lancet or to employ alone, when the lancet can do no more; and we have two such in Tartarized Antimony and in Mercury." the tartarized antimony I believe to be best adapted to the first degree of the inflammation, that of engorgement; and the Mercurial plan to the second that of hepatisation. — The bowels having been evacuated

with Colocynth and Jalap, or the infusion of Senna with Sulph. Magni. recourse may now be had to the Tartar emetic - giving gr. ½ dissolved in water with a few drops of Sinct. Opii. very hour, after having given a few doses the quantity may be doubled, and in the course of a few hours it may again be increased to a grain very hour. Should the medicine operate favourably it will relieve the dyspnoea without causing more than very slight vomiting or purging.

In those cases where the Tartar Emetic is inadmissible, or when the inflammation has reached the second stage, Mercury is to be preferred to the Antimony, Calomel may be given internally combined if necessary with Opio, if a quick and decided impression is necessary, Mercurial inunction may also be employed. The bowels should be kept soluble in this disease by the use of saline Cathartics, Castor oil, or Magnesia combined with Rhei, or what may sometimes be preferable, Enemata. It very often happens however that the remedies employed to meet other indications, have the effect of sufficiently loosening the bowels, so that measures are not required for that purpose especially. — Counter irritation by means

of blisters (after the acute inflammatory stage is past)
is often productive of great good in relieving the pain
and dyspnoea, also the oppression and tightness experienced
in the chest. Local bleeding is also highly recommended
by some (as an auxiliary to the lancet) by means of
cupping-glasses or by leeches. By others local bleeding
from the chest is thought to be productive of but little
if any good. — Expectorants are often highly serviceable
after the general febrile excitement has been moderated.
Such as Syr. Scilla and ipecaca or Sanguinaria. Also Mucilage
of Gum Acacia, of ^{cont} Herms Juiva ~~or~~ pith of Sapparas &c
In the declining stages of the disease when there is a pallid
face, sunken features, coldness of the surface with a feeble
and irregular pulse, we should administer stimulant &
cordial medicines, as Carb. Ammon. in an infusion of
Serpentaria. Wine, Brandy &c. And if symptoms of hectic
make their appearance, recourse should be had to Sulph.
Quinine. Oil of Turpentine has sometimes proved ~~good~~
serviceable when given in large doses; Should symptoms
of gangrene appear they should be met with Chloride
of Lime, opium, Quinine, and the Mineral acids especially
the Nitro. Muriatic — There are other remedies recom-

-mended and by some used with asserted benefit in the treatment of pneumonia; such as Hydrocyanic acid, Digitalis, Acetate Lead, Muriate of Ammonia, the Alkalies and alkaline carbonates, these articles however are more particularly adapted to the earlier stages of pneumonia. In the advanced stages after the disappearance of fever, the lungs yet remaining solid, the Iodide of Potassa has been recommended - Conium, Hyoscyamus, and other articles of this kind may be substituted, when opium disagrees with the patient.

The regimen in pneumonia should be strictly antiphlogistic, and with a view to prevent vomiting, very little liquid should be allowed during the antimonial treatment - During convalescence from this and all other acute diseases of the Chest, Visitors should be excluded, as talking even in an under tone is injurious to the patient.

This then is the treatment which I conceive to be most likely to benefit those who are affected with acute idiopathic pneumonia; different cases will of course require different modifications of it, for which no particular rules can be laid down,

W. P. Beach.



II.

—
Dissertation
on
Pneumonia,

by

George Benedict, B. A.
of Danbury.

Candidate for the Degree of Doctor in Medicine
at the

Annual Examination, 1857.

Pneumonia

This disease being strictly inflammatory in its character is perhaps more properly called Pneumonitis. It is emphatically a disease of variable climates. This circumstance and the fact that it affects one of the three great organs of vitality, combine to render it a subject of peculiar interest to the medical practitioner in New England. No age is exempt from a liability to its attacks. In its acute form it often proves a formidable disorder in infancy and complicated with, or supervening on acute Bronchitis, perhaps oftener proves fatal than otherwise. Formerly it was, in many instances an obscure disease. The pain occupying one or the other side of the thorax in

connection with the cough and characteristic sputa generally rendered a diagnosis tolerably easy. But the pain might arise from some other cause than inflammation of the lung or it might be absent. The cough though in some respects peculiar, is nothing more than may be heard in severe catarrh. The expectoration delayed till late in the disease or divested in some measure of its peculiarity, in itself alone would not be diagnostic. With the discovery and application of Auscultation & Percussion (of which I shall speak hereafter) it has become an easy matter to detect the presence and extent of the disease and to distinguish it from any other affection of the thoracic contents.

The general symptoms of Pneumonia for the most part follow a pretty regular order in their accession. Preceding the others there is usually pyrexia which is ushered in by a rigor and accompanied by depression and languor. The febrile action is often high at the outset, the pulse frequent, the skin hot and dry with urgent thirst. The onset of the fever is generally followed by pain in the chest affecting one side or the other according to the seat

of the disease. Sometimes this pain is acute though more commonly in uncomplicated cases it is of a dull character. It is aggravated by the cough which now supervenes, by a full inspiration, by pressure on the part or by a change of the patient's position. The cough is marked by a shortness and (as it were) sudden breaking off, which is owing doubtless to the pain caused by the act. It is at first dry or accompanied by a simple catarrhal expectoration.

As the disease advances, and sometimes indeed when its progress is rapid, - in the very early stages, dyspnoea manifests itself and is often a very troublesome symptom. The respiration becomes hurried and the patient seeks in vain for a position which shall afford relief to his distress.

After the lapse of a period varying generally from twenty four to forty eight hours, the characteristic sputa appear. In cases of pure Pneumonia the expectorated matter consists of a semi-transparent jelly-like mass, distinguished both by its great viscid-ity and its peculiar color. It adheres firmly to

the vessel containing it, refuses to flow when the vessel is turned on its side and is not detached even if strongly shaken. Its color is such as we should expect from an intimate mixture of mucus and blood and indeed, this is its character. This color differs according to the amount of blood present, ranging from yellow to a decidedly red hue. It is generally called by Authors, rust-colored, and in most cases this expresses as well as any other term its peculiar appearance. With the presence of this expectoration the dyspnoea generally increases; at the same time the pain diminishes or ceases altogether.

Such being the general symptoms we may now consider the anatomical characters of the disease. Most Authors agree in making three stages of Pneumonia founded on changes that have taken place in the texture and appearance of the organ affected. The first stage is that of engorgement, when we have congestion in the lung or in the inflamed portion of it. It is caused by the presence of an undue quantity of blood or of serum deeply tinged with blood in the part. That peculiar sensation produced

by pressure and owing to the presence of air in the cells of healthy lung, - the crepitation is much diminished or entirely destroyed. The blood and serum have taken the place of the air and may be seen to exude on making section of this part of the lung. The small bronchial tubes partake in the disorder. The mucous membrane which lines them is found to be of a deep red color and this appearance is seen also on the external surface of the organ thus marking the extent of this stage of the inflammation. This appearance externally is similar to that in the depending portion of the lung found after death from other diseases, caused in this latter case by the gravitation of fluid blood to the part.

This period of the disease is generally of short duration. Succeeding it there may be one of two things. First, the progress of the inflammation may be arrested, the lung speedily returning to its natural state. It is resolution; and if this favorable change takes place, the patient soon regains perfect health. But frequently the disease advances so that instead of simple engorgement when perhaps there was slight crepitation there now seems entire absence of air. The diseased portion of lung has

become heavier than before. Thrown upon water it no longer floats on the surface but sinks to the bottom. It still retains the deep red color, but the spongy character is lost. On section a fluid may still be pressed out though in smaller quantities than before. The lung is solidified and this quality together with the variegated appearance of the cut surface have given to this stage of the disease the name - hepatization. The areolar tissue of the lung is softened and hence its substance is easily broken down by the finger. Resolution may and doubtless often does take place at this period.

On the other hand the disease may still progress to the third stage. In examinations of patients who have died in this period a change is found to have taken place both in the substance and color of the diseased portion of lung. It is generally said to be gray and Andral has called it gray softening. Such undoubtedly is the appearance in most cases though I recollect to have seen one instance in which it was of a decidedly yellow color. In this case the texture and consistence of the lung were entirely destroyed, it being a mere pulpy mass. In other cases, probably when the patient dies earlier in the progress of the affection, there is more consistence, But when hepatization has

passed on to this third stage pus is always present. It is not circumscribed forming an abscess but permeates the whole of the diseased portion of lung or rather all the structure which has reached this stage; for the three different conditions described may exist in the same lung at the same time. Whether recovery ever takes place from this state of purulent infiltration is not satisfactorily determined. We certainly should not expect it if the whole or the greater part of one lung was implicated: but if there remains of both organs enough sound structure to aerate the blood and carry on the vital function, we see no reason why the system may not sustain the suppuration and recovery at length take place.

A few words in regard to the causes of Pneumonia must suffice. Exposure to cold and especially to cold and moisture is probably the most frequent and powerful exciting cause of the disease. It perhaps more frequently than otherwise supervenes on a common catarrhal affection, especially if in the catarrh the bronchia have been affected. Whether, however it follows a catarrh or not, the bronchia in Pneumonia are more or less implicated. If the constitution is

impaired by the common causes of debility we can understand that this affection may be easily induced, or on the other hand in the plethoric and healthy we know that inflammation is liable to attack any organ; and inflammation of the lungs is perhaps more frequent than that of the parenchyma of any other organ. This doubtless is in a measure owing to their great vascularity. Other causes such as inhalation of noxious gases or effluvia or of dust are thought to induce the disease.

Before speaking of the treatment, a few remarks on the physical signs may be appropriate. Now skill in percussion and auscultation seems to depend more on practice than on any peculiar faculty; and it does not require long practice to become familiar with the sounds present in Pneumonia, as they are for the most part well marked. After learning by actual observation the healthy sounds of respiration through the stethoscope or the healthy resonance elicited by percussion one can easily detect the variations found in disease.

For auscultation most practitioners prefer the stethoscope rather than the immediate application of the ear. The reason for this seems to be that in applying the ear

27
directly to the chest, the firm structure of the head in contact at various points with the parietes of the thorax always more or less tense, conveys not only those sounds which are made directly under the ear but from the surrounding portions of lung; so that though listening immediately over a hepatized portion of the organ we may hear sounds from the uninfamed parts.

Repeated trials with the stethoscope and by the direct application of the ear at the same visit have convinced me that for accuracy in ascertaining the exact extent and actual state of the disease the stethoscope is far preferable.

The sound elicited by percussion in the early stage of Pneumonia is generally dull. There is not an entire absence of resonance but a marked difference is found between the diseased lung and the corresponding portion of the healthy one. And as the inflammation advances from engorgement to hepatization this dullness increases so that at length all resonance is lost. It is important if we resort to this mode of ascertaining the situation and extent of inflammation to note with care the different degrees of dullness, for thus only can we mark in the advancing disease its severity, and in resolution

the return of the organ to a fit condition for performing its functions.

In Auscultation our object is not merely to discover the presence of inflammation but to ascertain with greater precision the several stages of its progress and its extent. From the very first period of the attack, when perhaps there is no perceptible dullness on percussion the ear tells us of mischief. The vesicular murmur, that delicate rustling sound of the healthy lung, though present and predominant, is nevertheless accompanied by a very significant sound of a different character. Its seat is doubtless in the minute bronchia and caused either by the bursting of numerous small bubbles of air in the viscid mucus, or perhaps by the passage of air through these tubes when somewhat compressed by the swollen parts around them. It is called crepitation or more properly perhaps crepitant roushus. This sound also like the dullness on percussion increases as the disease advances, gradually obscuring and finally entirely covering the vesicular breathing. But this shortly diminishes and ceases entirely when the stage of hepatization arrives. And now a new acid.

different sound is present, a sound which in health is thought to be obscured by the respiratory murmur and the spongy character of the lung. It is caused by the passage of the air through the larger bronchia and is a blowing sound such as we might expect to hear when the air passes with some degree of rapidity through the tubes. This is called bronchial respiration. The quality of the voice is altered and the change gives rise to the term broncophony. These sounds vary in degree according to the portion of lung affected and the amount of inflammation present, being more clear about the root and superior lobes where the bronchia are large and numerous, and less distinct in the lower portion and when the inflammation is severe. Indeed if a whole lung is hepatized so that on inspiration there is no expansion of the chest, there is an entire absence of the bronchial respiration though the bronchial voice may remain. The resonance and respiratory murmur will be present of course in some degree if the superficial portion of the lung is not involved in the disease.

This is as far as Auscultation enables us to trace the

disease. It does not tell us whether the lung remains hepatized or whether it has gone on to purulent infiltration. In either case there is often an entire absence of sound. But what is of importance, we learn by the ear whenever the organ is recovering from the inflammatory state. Sounds are again heard when air begins to enter the lung, not the same as those heard in the advancing period of the disease but modified by the condition of the parts. Instead of the fine crackling or minute crepitation there is a coarser sound caused perhaps by the bursting of larger bubbles of air in the bronchia. With the gradual return of the organ to a healthy condition this sound diminishes until the sounds of health only are present.

In the treatment of this disease bloodletting is invariably spoken of first and as invariably recommended. Doubtless in very many cases it is called for. The hard full pulse and other symptoms of severe inflammation require the use of the lancet. There is undoubtedly a difference in different years and in different epidemics, and diminishing the amount of blood which is to pass through the lungs

will not always diminish the amount of inflammation or if it does other results will sometimes follow which are as disastrous as the inflammation itself. We may safely say that the asthenic form of the disease is often produced by this free depletion at the outset.

But whether recourse is had to general bleeding or not, something is needed either to aid the effect of depletion or to act as a direct sedative on the circulating system. For this purpose tartarised Antimony is considered the best article. It is said by some to be a specific in acute inflammation and especially in acute idiopathic Pneumonia. In one sense it is specific i. e. it produces effects which follow the use of no other article. But in the strict meaning of the word it is not specific for it does not act on every individual affected with the same disease in the same manner. Still it is a valuable remedy the most valuable probably that can be employed in the disease under consideration. It is not given with a view to produce an emetic or cathartic effect, for if either of these results follow its administration, its power over the disease is found to be very much diminished. It should then be

given in small doses. Its so-called specific effects will be found often to follow doses of $\frac{1}{4}$ of a gr repeated every hour as surely as if a larger amount is administered, and even this quantity will sometimes act on the bowels in which case it should be combined with a little opium. Given in three minute doses in solution during the first or stage of engorgement it will often produce the most happy results, even when there has been no preparation of the system by depletion.

Digitalis is often given with a view of producing similar effects. It seems however, at best a very uncertain remedy and cannot be relied on—

If the Pustar Emetic fails to produce its peculiar effects at this early period of the affection many are in the habit of resorting to the use of mercurials and Calomel is the form generally preferred. The administration of this article to slight ptyalism is thought to be productive of the best results. In any case where the biliary secretion is disordered as it sometimes is in Pneumonia, this practice is undoubtedly highly useful. But when it is employed till its specific action on the gums is manifested a lingering convalescence may be expected.

Cathartics are seldom of much use in Pneumonia. They seem to exercise little or no control over this inflammation. Still at the outset of the disease the bowels should be cleared and during its course constipation should be avoided by the use of mild purgatives.

Epispastics constitute a part and in many cases an important part in the treatment of Pneumonia. Care however should always be used not to apply them too soon. When the fever has subsided as marked by a cool skin and diminished force of the pulse, the pain and dyspnoea continuing a blister is often followed by sensible improvement. The blister may be large covering nearly the whole chest or what my limited observation has seemed to prove to be better a smaller plaster may be applied successively to different parts of the surface. Counter-irritation thus kept up on the principle of what the French call the flying Blister continues the influence longer than when the whole thorax is enveloped at once.

Other remedies will often be required. In low forms when the disease assumes a typhoid character, stimulants will be needed. So also in the latter



stages of the acute form wine-^{or} whey will often be found to give vigor to the circulating system, diminishing the frequency of the ^{pulse}, while it increases its volume and strength thus favoring the needed reaction. In the early stages effervescing draughts will generally be agreeable and useful, One of the best is that of tartaric acid and ammonia.

The treatment is then antiphlogistic as in other forms of inflammation and the disease often yields to it affording to the physician the best evidence of the efficacy of his medicine.

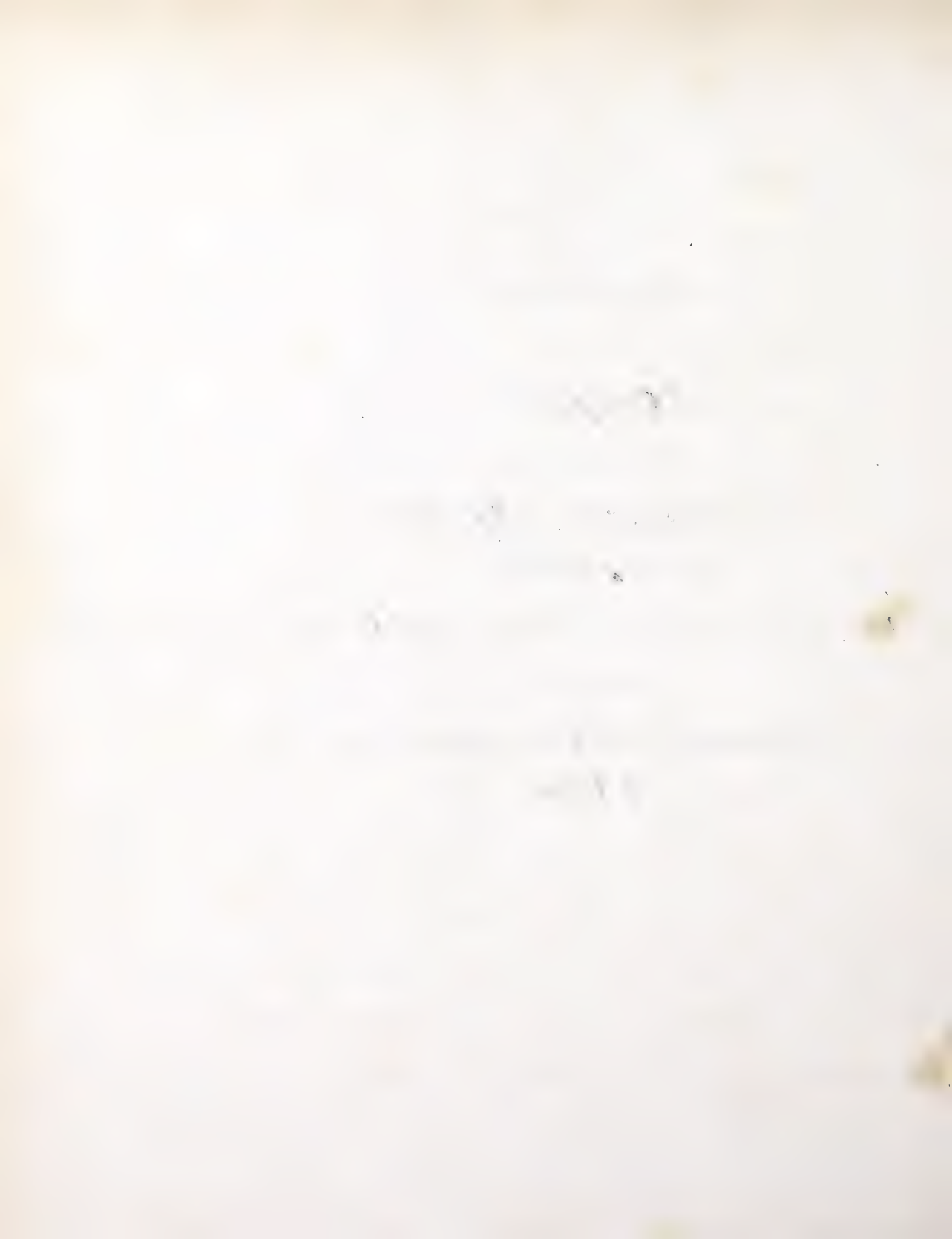
The convalescence is usually rapid, but the patient needs to be continually on his guard against a renewal of the disease; for a very trifling exposure while the lungs are recovering will often be followed by a return of all the symptoms.

III.

—
Dissertation
on
Scrophula,

by
Orlando Brown,
of Groton,

Candidate for the Degree of Doctor in Medicine,
at the
Annual Examination,
1851.



Scrophula

There are but few diseases of more importance to the Physician and Surgeon than the one selected as a subject for dissertation.

It is not only to be met with in its distinct form, but as a peculiar Modifier of the various morbid phenomena to which the human machine is subject.

Dr Cullen places Scrophula in his Class Cachectic. Order Impetiginos. & gives four species. viz. Scrophula Vulgaris, Mesenterica, Flegma & Americana.

He defines the disease as consisting of hard indolent tumours of the conglobate glands; existing in various parts of the body; but more particularly in the neck, behind the ears & under the chin, which after a time degenerate into ulcers, from which instead of pus, a white curdled matter resembling the coagulum of milk is discharged.

Dr Good places it in his class Hematoma; Order Dyssthetica; and gives but one specie.

Scrophula Vulgaris. The defining the disease as an indolent glandular tumour, suppurating slowly & imperfectly; and healing with difficulty.

Scrophula is now considered to be a state of constitutional debility, with a tendency to inflammatory and ulcerative disease; and to the deposition of tubercles in various parts of the body.

Some writers maintain that Scrophula always originates in the superficial absorbent glands the affection of other parts being consequential. It appears however, that there are but few, if any texture of the human body, or of the organs which these textures compose; but what are liable to scrophula as an original, idiopathic disease.

Although there are various conflicting opinions relative to the primary action of this disease: all agree in ascribing to it a latent and an active form; a scrophulous habit or diathesis, capable of being called into action by various exciting causes.

This diathesis is a condition of the system, depending on an hereditary taint, the nature of which is obscure.

It has been considered by some, to consist in an excess of acid in the blood. Dr Cullen thought it depended on a peculiar constitution of the lymphatic vessels. Most writers of the "present day" consider the cause of this diathesis to depend on a defect in the vitality of the fibrin of the blood, owing to a perversion of nutrition.

It has been denied that scrofula is an hereditary disease, but the observations of Lugol & others, show conclusively that such is the fact.

Although parents communicate this diathesis to their children; they may be free from it themselves.

Thus parents who are affected with secondary syphilis, do not communicate this to their children, but a modified diathesis, which is scrofula.

7

Besides syphilis, various other causes may be enumerated as originators of Scrophula: among these, an Ananism, Epilepsy, Lunacy. Premature & excessive indulgence of the sexual appetite; Marriage too early or late in life, or among those of near kin.

As the effect of this cachexia, we have in the mucous surfaces, Ophthalmia, Coryza, Catarrh & Diarrhea. In the cutaneous, Lupus, &c. &c. Pustular & Papillary eruptions.

In the bony system. Necrosis & Caries.

In the cellular tissue, Chronic Abscess &c.

Besides the above diseases, there is a tendency to the deposition of tuberculous matter, in the various tissues of the body.

Not only are these produced by slight exciting causes, but where this diathesis exists, it exerts a peculiar modifying power, over other diseases.

The causes which render the latent form of scrophula active, are various.

Among those most common, we may enumerate, sudden changes of temperature



although a high or low temperature is against its development; the African beneath a tropical sun & the Laplander in the regions of perpetual snow, being alike exempt from its ravages.

Unwholesome food & air; from which the great mass of poor in our large cities suffer; Syphilis; excessive venerea; Onanism; variola, Rubella, &c. In short, all causes that deprec the vital powers, acting for a length of time, will develop scrofula.

It is stated that this disease is more prevalent among females than males. It is not however probable that this diathesis is more common in the one, than in the other sex. although it may often assume the active form among females, from the fact, that the customs of society (to a certain extent) debar females from exercise in the open air, & other means of invigorating the system which are possessed by males thus rendering it more susceptible to mortific agents.

Those most liable to its attack; are said to be possessed of a peculiar softness & flaccidity of fibre. Hair light coloured. Eyes blue. Eyelashes long. Pupils large. Skin fine. complexion fair. joints large. Upper lip thick. Whether this peculiar temperament is the cause or effect of this ~~disease~~ writer do not inform us. It is not however probable, that this temperament has any connection with scrofula. True the majority of scrofulous patients in England & in this country are of this temperament; but in France, the majority are of a darker hue. We shall doubtless be unable to decide the question until some lover of statistics shall count up the white & black heads throughout our country & give us the exact ratio.

Scrofula usually shows itself for the first time, between the ages of three & seven years; often as late as puberty, but rarely at a more advanced period of.



life. It however sometimes exists in an active form at birth. When it appears later than "puberty" it is probable that the close observer would have recognized its incipient stages; much earlier in life.

The symptoms of Scrophulas, may be divided into Constitutional & Local. In the first class, I shall enumerate those various morbid actions which appear in all forms of the disease.

Among these the most prominent, is ^{the} Heretic Liver. Scrophula, in fact never advances to a fatal termination without the manifestation of this symptom.

The natural functions are irregularly. Digestion is usually weak. The tongue furred & red on its tip & edges. The appetite sometimes deficient, but oftner excessive, with a craving for some articles of food, while others are peculiarly disgusting. This disgust is oftner for Oil

articles of diet, than any other variety. It is stated that nine out of ten of this diathesis have this aversion to Fat-Meat & Butter. The bowels are usually torpid. The blood thin & watery, Its coagulum soft & small. The muscles pale and flabby & the heart & arteries weak. The growth is often stunted; the chest narrow; & Puberty retarded. especially in the female. who is liable to prolonged Chlorosis.

Of the active forms of Scrophula, I shall mention first, the deposition of Tuberculous matter in the Lungs. constituting Phthisis. This is the most fearful of the mazy forms, which Struma assumes. It is as Dr King remarks "the great sledge hammer".

It has been denied that Phthisis is a form of Scrophula, the observations of modern physicians however appear to show conclusively that this is true. Dr King says all the patients in the Hospital of St. Louis Paris

who died of Scrophula. had tubercles in the lungs.

There is great diversity of opinion among pathologists relative to the nature & origin of tubercles. Lacennec says they are at first small firm grayish semitransparent bodies; which gradually enlarge & become opaque. In this condition he calls them crude tubercles. after a time they grow soft in their centre, and are converted into a liquid, creamlike mass.

Andral says in the outset they are small, round, opaque, yellowish, bodies unorganized, and of various degrees of consistency. He does not consider the softening due to any spontaneous change in themselves, but to the admixture of Pus, which is poured out by the adjacent tissues, in which they have acted as other foreign bodies.

Dr Carswell believes that tuberculous matter exists in the blood: that a speck



of it is deposited in the tissue of an organ: and increases by secretion or additional deposits, on its surface; consequently it may assume different shapes, which are dependent on the parts in which it occurs. He believes with Andral that their softening is due to the suppuration of the surrounding parts.

Gengol believes tubercles are organized bodies: "possessing an independent life of their own; and "passing through the various "phases of their existence like other abnormal tissues. Some writers maintain that they are always the effect or termination of inflammation. This theory though not generally believed, is a difficult one to disprove,

Among the various theories brought forward by a class of intelligent observers; it is difficult to make a selection. Fortunately this is unnecessary, as most agree in the exciting cause and the indications to be followed in its treatment.

The first symptoms, when scrofula attacks the lungs; are those given us by auscultation & percussion. among these; the most prominent is the gurgling & cavernous respiration & Pectorilology. following these, Cough, Dyspnea Expectoration, Pain, Diarrhea, Edema & apthe

Another symptom first pointed out by Prof. Hooker of this Institution & one requiring particular attention being perhaps (if not the first) among the first symptoms which appear in diseases of the thorax; is a variation from the natural standard; of the ratio, between the pulse & respiration

In children the most common form of struma, is that of Stabes Mesenterica or the Febris Mesenterica of Dr Good This disease however deserves more merit a place in the class of Fevers, than Phthisis. of the symptoms peculiar to this disease. Disturbance of the digestive organs stands first. which, though appearing in every form of scrofula;



in none, is as marked as in this. There is also a peculiar appearance of the countenance, which after once being seen requires no description. The face is pale & bloated. We readily distinguish between this & the former variety, by the absence of cough & the auscultatory signs before mentioned.

Whether scrophula often attacks the brain, is a question yet undecided. Some maintain that Hydrocephalus is a variety of this disease, this however has not yet been proved.

Scrophulous inflammation & ulceration is singularly slow, insidious and obstinate. The Lymph effused is often frail & curdy. The Pus, viscid & serous or flaky. In the ulcers there are flabby, rapidly growing granulations, with loose edges.

When simple scrophulous swellings occur, we usually find the temperature of the skin over them, one or two degrees higher than of the surrounding tissues;

They have a peculiar soft feel at first; which as the inflammation increases; is gradually exchanged for that of elasticity; the margin of the tumour is hardened and circumscribed. As it progresses, it again becomes soft and fluctuates freely: the skin becomes thinner at some particular point, and assumes a dark colour which soon bursts, and discharges (instead of pus) a thin fluid, mixed with white flocculi. the aperture usually enlarges, and a scrofulous ulcer is produced where bones are affected, the ulcer puts on a more irritated appearance, and discharges a thin sanious fluid, often accompanied with spicule of bone.

It is often difficult to form a diagnosis between this form of the disease, and secondary syphilis. The following points of difference will enable us often to distinguish, the one from the other. Syphilis rarely attacks young

people: in the majority of cases it attacks the compact textures of bones and their superficial parts: there is little tendency to Hyperostosis: the pain which precedes the development of the disease increases rapidly for a time, then decreases and nearly disappears in the later stages.

There is a tendency to circumscription, ossification and sturnation: with but very little to suppuration. There is also a chain of syphilitic symptoms concomitant or antecedant, widely differing from those of scrofula.

In scrofula, young people are usually attacked: the spongy or cancellated texture of bones are often affected: and their deep seated parts are first attacked, there is much tendency to Hyperostosis: the tumefaction precedes the pain, but the latter soon increases, and becoming more and more intense, as the disease advances: There is a tendency to suppuration, caries & necrosis

but not to ossification

Gyphilis may be complicated with scurvy
ula: in these cases our only means of
diagnosis, is the history of the case.

Scorbuta often attacks the Hip joint,
constituting Morbus Coxarius. this disease
may originate in caries of the head of
the bone, or in ulceration of the cartilage.

The symptoms and consequences are the same
in either case. The disease usually begins
with slight lameness of the affected limb,
& pain at the knee or along the course
of the vastus externus muscle. There is usu-
ally tenderness of the groin & pain on pressure
behind the great trochanter. The parts of
the affected side usually become atrophied
showing a want of parallelism in their
folds. to apply this test, the patient should
be placed in the erect posture; standing
with his heels together. among the first
perceptible changes, is an elongation or
shortening of the affected limb. This is

owing to the obliquity of the pelvis. the elongation or shortening only being apparent; the distance from the spine of the ilium to the ^{patella} being the same on both sides. & the disease advancing the neck of the femur is destroyed & the destruction of the capsular ligament & acetabulum causing the bone to be dislocated, by the action of the muscles.

Without enumerating any more of the active forms of scrofula. I shall next consider its treatment. This may be divided into that of the disease & of its active forms. In the treatment of this cachexia there are two indications to be followed. The first is to strengthen the system. the second to prevent local disease. The means of effecting these are twofold viz. regimenial and medicinal. The former, is by far the most important, and consists of good nourishing diet. Pure air. exercise, Bathing &c. The diet should be nutritious digestible and abundant consisting of

17

Wheat. Bread & farinaceous substances generally: with a sufficient quantity of Beer or Wine, to promote digestion. If in the nursing child, particular attention should be paid to the milk of the nurse.

The clothing should be warm, especially for the neck, chest & feet, so as to keep up cutaneous circulation & prevent congestion in the chest or abdomen. Flannel should be worn next the skin to prevent any ill effects from sudden changes of temperature. The exercise should be such as to call into action, the various muscles; particularly those of respiration. Exercise, however, should be voluntary or it may be carried too far. This as Dr Carmichael has shown is the best means of promoting action of the Liver by accelerating the venous circulation & the compression of the abdominal viscera by its muscles. It will also tend to obviate costiveness and

its attendant evils. If the patient is living in a crowded, ill ventilated apartment, or in the unhealthy air of a crowded city; during the summer months, he should be immediately removed to the free air of the country, and if possible, the mind employed on some pleasing topic. Cold bathing, is an excellent auxiliary to our other treatment. The object is, to promote vigorous reaction. for this purpose the nervous & circulatory systems should be in a moderate state of excitement, before taking the bath. On leaving it friction should be applied to the surface of the body, & the reaction may be assisted, by moderate exercise.

The best climate for scrofulous patients, is that of a warm, steady temperature. Our medicinal agents should be those that improve the appetite and strength. Among these, are Iron and its various preparations, Iodine, Bark, Sarsaparilla

Ulcum jejunis Aselli. Sulphate of Zinc &c &c.

In short, we may try any or all of the various anti scrofulous remedies, & perhaps at last have the mortification of seeing our patients not benefitted by the treatment.

In its active forms our treatment should vary with the different manner in which it makes its appearance; although we should never lose sight of the nature of the disease, let it appear in what form it may.

In the treatment of Phthisis, that enumerated as belonging to the diathesis, should be followed. Iodine, however appears to exert less control over this, than any other form of scrofula; it may not perhaps received the honors due, owing to its indiscriminate use, in all varieties of the disease. In those cases attended with much inflammatory action, it is not admissible. but where the disease is slow & insidious in its progress it may be used with advantage.

In the early stage; before the tubercular matter becomes softened; the patient may be benefited by a removal to a warm climate. If however the lungs are in a state of disorganization we cannot often expect a cure. The diet should be ~~weak~~, as will sustain the patient, without exciting phlogistic action.

In the inflammatory variety before alluded to, the diet should be light and unstimulating. Whenever the more atonic variety exists, the diet should be of a more nourishing kind. Milk has been highly & perhaps justly recommended, as an article of food in Phthisis. Bloodletting has been strongly recommended but has fallen into disrepute & perhaps is now too much neglected. It may be advantageous in the inflammatory form, requiring like other active measures much caution. We may ^{accomplish} perhaps, the same end as effectually & more safely by the use of Digitalis and Tartarized Antimony. Hydrocyanic Acid, is thought by some to pos

possess a peculiar power over this disease. It will doubtless if properly managed, benefit some of its forms, but, is an uncertain remedy. To relieve local pain we may employ Leeching, Blister and other means of drawing the nervous energy, as well as blood, from the seat of disease. The Wood Nettle has been highly recommended. The Cod Liver Oil is now exciting much attention & ^{is employed} with varied success. Urgent symptoms should be palliated. The Cough by demulcents and opials. Colligative sweat, by acids. Diarrhea by chalk & other astringents, but more effectually by small doses of Opium.

In the *Scrophulous* the same general treatment should be followed as in Phthisis. Iodine here seems to be of great advantage, it may be given internally & painted over the abdomen. The preparations of Chlorine have been recommended & doubtless possess some anti scrophulous properties. In various preparations of Iron are much esteemed in its treatment. The Iodide is perhaps its best form, and

22
Mercurials have also been thought of service

In scrofulous swellings of the glands we should endeavour to promote absorption by fomentations with hot salt water, Zinc lotions or Udding on the Emplast Hydrargyris but if suppuration should occur & the skin reddened they should be opened with the lancet or caustic;

Where the bones are involved, perfect rest should be enjoined, while the Constitutional treatment, before mentioned for scrofula, should be followed. If the pain is severe, issues may be employed. Leeches are also of much service. Iodine may be employed over the part. Where there is Necrosis, the sequestrum may be removed by a surgical operation and the patient recover.

The disease, may run on to such an extent as to render amputation advisable, This may often be avoided by the excision of the extremity, of the diseased bone;

Having mentioned some of the most

common forms of scrofula. & their treatment,
I shall not pursue the subject further.

The great diversity of opinions among writers,
rendering it impossible to decide from books,
what should be called scrofula & what by
some other name. Some ^{almost} maintain that
scrofula (like Heannermahns itch), was the only
disease, that issued from Pandora's Box. while
others; almost deny its existence.

But the days have gone by in which
the royal touch; was considered its specific,
& though there is doubtless much error,
yet combined with truth; we may reasonably
hope, soon to emancipate it from the bands
of ignorance & superstition, & assign to it
its proper place in the list of diseases.



IV.

Dissertation

on

Pleurisy,

by

David Silliman Burr,

of Danbury,

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination,

1851.

In complying with the
rules and regulations of this institution
in regard to a dissertation on some
medical subject. I shall not attempt
to display: (as some of my brethren
will, or at least make an attempt.)
Any of that original genius, or what
Poets sometimes call native talent;

But shall give you a few facts that
I have learned from books and my
preceptors in regard to a disease
called Pleuritis, or Pleurisy

In the first place it may
be necessary for^m to give a description
of that part of the body that is subject
to this disease, of which I shall not
enter into a minute anatomical
description of simply saying that

that it is a serous membrane lining the inner surface of the Costa or ribs and then is reflected upon the lungs forming a closed sack and also forms an exterior coat to the lungs. The inner surface of this membrane is bedewed with a secretion which gives freedom of motion to the lungs in respiration.

The inflammation like that of the other serous membrane is of a peculiar kind called adhesive inflammation.

The first symptom of acute pleuritis is a pain in the side which the patient calls a stitch, or when more acute, they will express it, to be like, sticking a knife, or some sharp instrument in between the ribs.

This is one of the most characteristic signs of the disease. The pain is increased if the patient takes in a full breath, or by pressure, by lying on the affected

side, by coughing or by the least effort -
on the part of the patient -

The most common position
of the pain is in the region of one or both
supples. But it is not always confined
to one position of the thorax but may
be felt in any part -

In this disease there
is great difficulty of breathing, which in
the commencement of the disease may
be owing to the great pain that the
patient experiences in taking in a full
breath and in this way you can
account for the short and frequent
breathing that is so manifest in this
disease

In the latter stages of
this disease we have the same difficulty
but from another cause, which is owing
to an effusion of fluid into the cavity
of the pleura compressing the lung,
so that the well lung has to perform

its own office and the office of the diseased lung; from this fact it is evident that there would be an increase of the respiration

The position of the patient is used as a diagnostic sign in this disease. The rule is, in the first stages of the disease, the patient is found on the healthy side. But in after periods, when effusion, has taken place, it will be, for obvious reasons, on the affected side

In this disease we have some physical signs which are considered at the present day by most practitioners as valuable.

In the commencement of the disease a creaking sound, or sometimes called friction sound is obvious to the ear. This indicates that the friction from the pleura has been arrested and that the dry surfaces are in contact with each other. or by placing your hand over the affected surface

you can sometimes feel this grating

The respiratory murmur which in health is very apparent diminishes in proportion to the quantity of fluid effused. and the sound you hear is called bronchial or tubal

If (after effusion has taken place) you place your hand over the part. and the patient made to talk very slight or no vibration is felt as when the parts are in a healthy state.

On placing your ear on the posterior part of the chest you hear a singular resonance of the voice. compared to the voice of a goat. hence termed egophony or goat-voice.

This peculiarity is said to be owing to the voice passing through the ligula in the cavity of the pleura which comes to the ear in a tremulous or vibratory manner. Doct. Stokes says in many cases of pleurisy we never find this sound and where we do. it has little value

in Otia gravis. In our Clinic. we have had opportunities of witnessing the peculiarity of the sound.

On percussing however slight the effusion may be, you will detect a dull sound. and we also have a dull sound in pneumonia. But - when there is hepatization the dull sound is the same in every part. But - in pleurisy it changes as the position of the patient is changed.

The exciting Causes.

The most common is exposure to cold or it may be produced by other exciting causes that irritate the membrane such as the irritation produced by the end of a broken Rib; or by penetrating wounds of the Thorax; also by the extension of an abscess; or tubercular excavation, into the cavity.

The Pathological appearances are of. Anath occurred early there is more or less redness. with a dry appearance of

the membrane. But if ^{the} ~~discrete~~ continues longer death takes place. There is an alteration in the secretion which may be modified in quality, and quantity. The quantity may form an ounce to several quarts. The character of the fluid varies. Sometimes transparent at others turbid, dirty, & muddy.

Plastic lymph may be formed with effusion, and forms the bands of union between the two surfaces.

When the adhesions are recent they are soft and have an albuminous appearance, but after a time they pass to a fibrous, cartilaginous and even ossious state.

Tubercles are formed in them also.

The lung is found to be compressed and forms a thin strip along the spine.

Pleuritis is divided into several

terminations. firstly it may terminate in resolution, and complete recovery.

secondly in adhesion. which may cause embarrassment of the respiration.

thirdly it may become chronic. or the effusion may be so great as to cause suffocation and death

Treatment. I have not spoken of the state of the circulation before giving it till I gave the treatment. there is general, pyrexia, with a firm. hard and not easily compressed. In such a state the first indications are depletion, the lancet should be used promptly. and it is recommended to be performed with the patient in an erect posture, and also that the blood be drawn from a large orifice and that you should continue to bleed until the pain is subdued or partially so. and if after this the firmness and hardness of the pulse

Continue you should bleed again, or
you may apply leeches or cups to the
painful side

After bloodletting it is
recommended to give mercury with the
view to its specific effect on the system
equal doses often repeated which may be
combined with opium. If you cannot give
this you should employ the mercurial oint-
ment externally. Blisters are also recommended

If after these symptoms,
there is an effusion into the pleura you
must do something to promote the absorp-
tion of the liquid. For this purpose you use
mercury repeated blisters to the surface
purgatives and anasthetics. (Of which a
Combination of squills digitalis and
mercury was of the best.)

If under this treatment
the fluid continues to be present or
accumulated it is obvious what will be
the result. The function of the lung



on the diseased side will be destroyed
and the one on the sound side to a certain
extent impaired by the liquid crowding
the mediastinum and the heart also into
that side. This may go so far as to cause
the death of the patient by suffocation.

In such cases there is only
one way to save your patients - and this
not always effectual. This by the operation
of (paracentesis Thoracis)

And I hope you will
never one of us do not go into all of the
different opinions of writers as to the partic-
ular symptoms that require this operation
and what point of the thorax should be
penetrated and also whether the fluid
should be evacuated all at one time
or not.

I might multiply pages and
weary your patients in copying the opin-
ions of authors in regard to this subject.
But I am rather inclined to the opinion

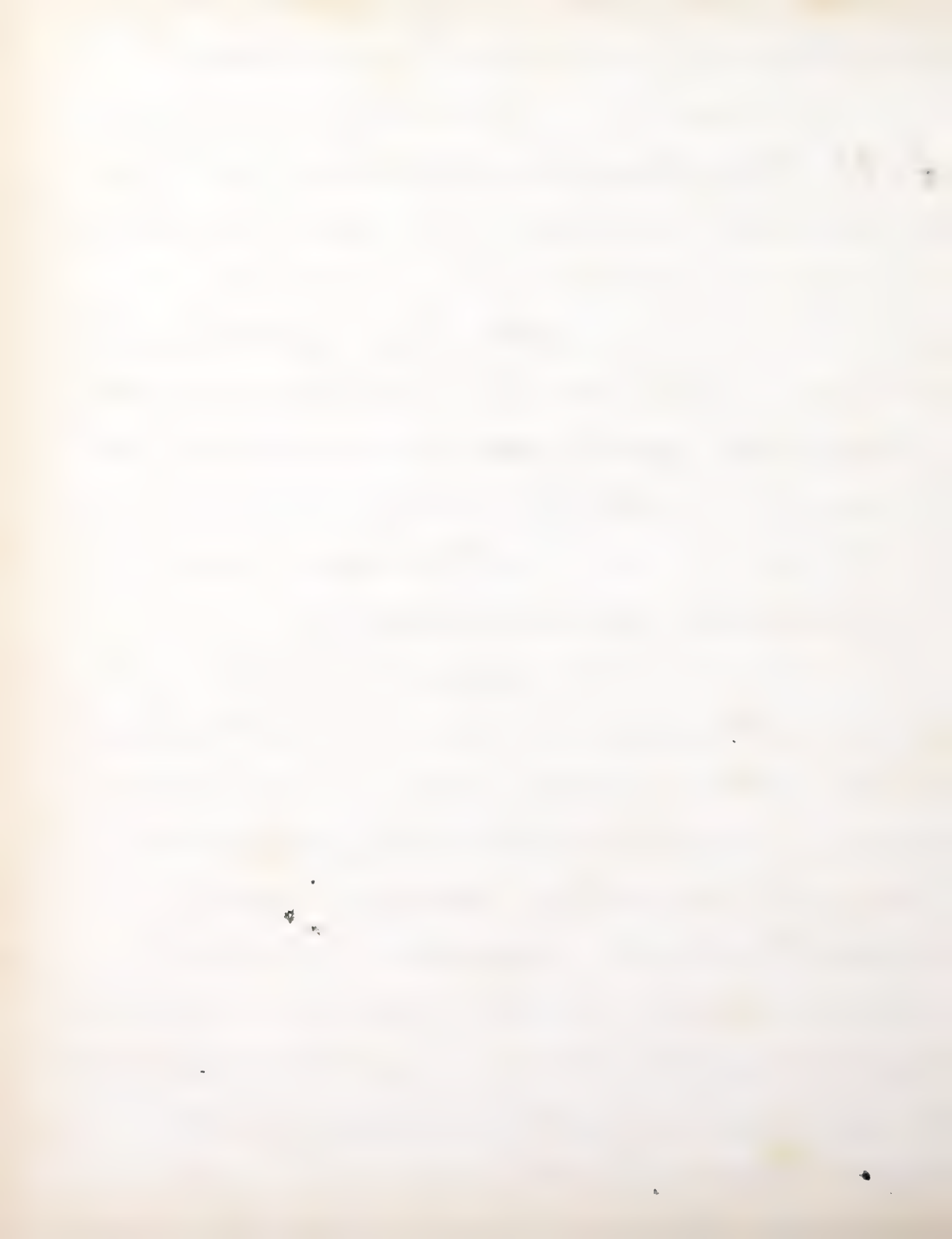
of the man of old in regard to long
speeches and multiplied words

But it is a well known
fact - that this operation is not (or at least
should not be performed) unless the patient's
life is in jeopardy

And one great symptom
already referred to - that would indicate,
this, is the great accumulation (or the
continued accumulation) causing diffi-
culty in the respiration, and where
suffocation was anticipated you would

Then is a kind of pleurisy that
I will allude to for a few moments known
by the name of latent pleurisy, in which
most if not all of these symptoms are
wanting or at least scarcely exciting a
suspicion of the existence of the disease

Your attention is first called to this disease
by an embarrassment in the respiration
and observing the relation between the
respiration and circulation you will



find it to be about one to three or three and a half. when in health should be one to $4\frac{1}{2}$. This is a valuable sign for patients with this embarrasment often think they have got disease of the heart and are constantly expecting death from the disease. This sign was first noticed by the second Geysserates

On percussion you have a dull sound

Patients sometimes tell you that they have great difficulty of breathing, which they often, (as before mentioned) think to be a disease of the heart. But on examining the patient you find by looking at the chest that there is difference in the corresponding sides one side will be contracted the patient may be bent to one side. you notice the difference between the respiration and the circulation. &c

You ask the patient if he never had pleurisy. he tells you no. You ask him if



He does not recollect of having some trouble
about the Chest at some previous time. He
may tell you ~~that~~. But we have been
taught - even from these circumstances
that - there has been latent-plumy
and that there is a adhesion of the
pleura causing this embarrassment -
~~between~~ ^{the} circulation and the respiration

V.

Dissertation

on

Inflammation,

by

Samuel Catlin

of Litchfield,

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination,

1857.

The General Phenomena of Inflammation.

The subject, which I have selected is of no ~~minor~~ importance, both in the practice of Surgery, and Medicine. One that embraces so large a field for the investigation of so important, and interesting subject.

The symptoms, commonly indicating its presence, as they may be arranged, consists of pain, swelling, increased heat and pre~~ter~~-natural redness, with impaired function of the inflamed part; although inflammation is characterized by the above phenomena; yet no one of them is to be regarded as strictly essential to its existence; for sometimes one or more of them may be nearly or quite absent.

Pain, though generally present is not always indicative of inflammation; for it may be caused by an irritation of the nervous system, without any increased action in the vascular system; as in cramp or long ^{continued} neuralgic pains without any

accompanying inflammation. The pain may be remote from the part affected, as in disease of the hip, the pain may be felt at the knee; the pain which is first felt in the shoulder, in inflammation of the liver goes to show that the pain may be remote from the part affected.

The pain in inflammation may be either attributed to the irritation of the nerves, by some direct exciting cause, or by the compression of the overdistended vessels, or the stretching of the fibres of the part. The nature of the pain may be varied according to the texture of the part, or the extent of the inflammation as it affects the different tissue of which the body is composed; it is generally very acute in parts largely distributed with nerves; although, the pain in parts of dense and unyielding texture, such as the bones and ligaments is very severe, which when in health possess but little sensibility.

The violence of the sympathetic febrile reaction

is in general proportioned to the intensity of the pain experienced in the inflamed part; owing to the disturbance given to the whole system. Swelling, as a characteristic of inflammation is more or less in the soft parts, and may be ascribed, in the first stage of inflammation to the greater influx of blood to the part, and subsequently to the effusion of serum, blood, lymph, and pus into the surrounding tissue.

Increased heat is considered as one of the phenomena of inflammation, although the presence of heat in inflammation does not appear to depend upon any actual accumulation or elevation of temperature, but on a morbidly irritable state of the nerves implicated in the part inflamed; although there is an increased influx of arterial blood, and oxydation of the tissue takes place more rapidly, which may cause an elevation of temperature in the part, but not above that of the heart.

Hunter, whose experience has been as great as

4
any of our fathers of medicine, with his series of experiments upon different animals and upon the human subject, did not find the temperature of an inflamed part to exceed that of the body which is about 98° to 100° . The preternatural redness, which is characteristic of inflammation is owing to the increased quantity of blood in the part, so that the smallest capillaries, which naturally convey a colorless fluid becomes so distended, as to be capable of receiving red blood; as for instance the minute vessels of the cornea, which when in health only convey a colorless fluid, become so distended, with red particles of blood, as to render them very apparent. Hunter had an idea that the redness sometimes partly depended upon the generation of new vessels; it may be in the healing of wounds or ulcers, or in the reparation of tissue new vessels may be developed in coagulating lymph, on their surfaces, but in ordinary cases, none of the redness can be

ascribed to that; for I think it impossible for new vessels to be formed as soon as preternatural redness can be caused; &c.

The local symptoms, when the disorder is severe, either on account of its degree, or extent, or the nature of the affected part, are sometimes followed with a train of morbid phenomena; such as disturbance of the heart, brain, and stomach, accompanied with a febrile disturbance of the system, named, accordingly, the sympathetic or symptomatic inflammatory fever, variable in degree as it affects the different constitutions.

The character of the pulse varies, not only with the intensity of the inflammation, and type of the fever, but also according to the particular organ or structure affected.

The pulse of common inflammation, is generally characterized by fullness, hardness and moderately increased frequency.

We have reason to believe that acute inflammation extends its effects to the whole of the circulating blood, or the whole system sympathizes with it;

for when it has ben drawn from a vein; a portion of the fibrin, at the upper surface of the coagulum, parts with its coloring matter. The coagulum is very different from that seen in ordinary blood; the coagulum takes place more slowly, and generally more firmly than usual, and when it is finished, there is a layer of fibrin, which is of a yellowish or sometimes of a bluish white color, free from red particles of blood, of greater or lesser thickness left upon the surface of the crassamentum.

The uppermost, whitish layer of the coagulum is called the inflammatory crust or buffy coat, and blood, presenting the above mentioned phenomenon, is called *sizy* on account of its being supposed to contain a larger quantity of fibrin or glutinous matter.

Sometimes the surface of the buffy coat is so strongly contracted, as to form a concave, or cuplike apperance; in these circumstances, the blood is said to be both buffed, and, cupped. The buffy coat is disposed to occur in the

generality of ^{inflammatory} complaints, although it must not be considered as an unvariable criterion of inflammation; for it is not uncommon to find the buffy coat on blood taken from pregnant women, or from individuals who work hard in frosty weather, and soldiers keeping watch at night in cold seasons of the year.

Inflammation may be divided, first into acute, and chronic; the former is generally used to denote that the inflammatory process ~~is~~ ^{is} both active and of short duration; it is more sudden in its seizure and rapid in its progress, and the constitutional, as well as local disturbance is more severe—more so if it affects parts of great importance, or if the constitution is weak and irritable.

Chronic inflammation implies an absence of acuteness or activity, and has a tendency to run its course more slowly, its local and constitutional symptoms are less severe; it only differs from acute only in degree, and not in kind.

8

Secondly, into healthy, and unhealthy; the former is that ^{form of inflammation} which generally ensues in the healthy constitution, and is not characterized, and modified by any particular disease in the part or constitution; while unhealthy inflammation is applied to cases in which the appearance, progress, and termination is under the influence of some determinate disease in the part affected, or the system at large and has little or no spontaneous tendency to recovery.

Thirdly into latent, and specific; the former is used to denote that form of inflammation of some of the internal organs, which pursues its course silently, and unperceived, to a considerable extent without any indications of its existence, from either local or general symptoms, in those persons whose state of the system is dull and languid.

Specific inflammation generally depends upon a special morbid diathesis, or the specific nature of the exciting cause; as in scrofula, syphilitic and rheumatic inflammation, produced by morbid poisons, or else by constitutional causes.

There is various forms of specific inflammations

affecting the skin, ^{each} characterized by the local appearance they exhibit, and the constitutional symptoms which attend them; they are produced by a cause which is specific, and are not very likely to occur more than once in the same person.

Inflammation may be modified by the state of the different constitutions, in which it attacks, for we generally find it more active in the young, robust, and plethoric, when on the other hand, we find it more indolent and destructive in those who are worn out and debilitated, also in persons advanced in life, when the vital machinery is irreparably out of order, and sluggish, inflammation generally tends more to destructive results; such as, ulceration and mortification.

The structure of the part in which it ensues, for it has a strong tendency to produce certain results in some structures more than in others; in the serous cavities its effects are generally adhesion; while in the mucous tissues it is more prone to result in suppuration, with the exception of the membrane which is formed in Croop.

The causes may be divided into the predisposing, and exciting causes; the first, or predisposing cause, of inflammation, is plethora, excess in food, drinks, bodily exertions, exposure to noxious miasmata and disorder of organs whose office is to purify the blood.

The exciting causes may be divided into two classes; first, those which act directly upon the animal structure, as wounds, bruises contusions and various caustic substances; secondly, those which act indirectly through the medium of the nervous system; as cold and moisture may cause inflammation of the larynx or trachea and the mucous membrane of the lungs.

Inflammation may have seven terminations or events; 1st Resolution or recovery, 2^d Hemorrhage, or an escape of blood from the distended vessels. 3^d Effusion of serum, 4th Effusion of fibrin or coagulable lymph, which when organized causes adhesion, 5th Suppuration, or the formation of pus, 6th Ulceration, or the removal of the inflamed part, 7th Mortification or its death.

Resolution, as a termination of inflammation, is when it declines, and disappears without leaving any structural lesion of the part, and returns to its former state.

~~Hemorrhage~~, the result of inflammation, is an escape of arterial blood from the distended capillaries, which are ruptured during the violence of the inflammation; the usual seat of hemorrhage, of this nature, is in the mucous membranes, as in epistaxis or hemorrhoids, or from the surface of granulating wounds.

Effusion of serum is the earliest effect of inflammation. The swelling of the inflamed part is hard in the centre and softer towards its circumference; which is an effusion of serum into the cellular tissue; as in acute dropsy if it is a result of an inflammatory action, producing serous effusion into the cellular tissue or serous effusion into the cellular tissue or serous cavities.

The effusion of coagulable ^{lymph}, or fourth event of inflammation is the pouring out, of that constituent of the blood, which nature has

provided for the separation and restoration of parts, either from the result of disease or injury; as in wounds and fractures, fibrin is poured out upon their surfaces, and constitutes what the surgeon calls union by the first intention, or the adhesive stage of inflammation.

Fibrin is poured forth, at first in a state of solution, or in a soft semi-fluid condition, and mixed with more or less serum, and is of a yellowish white or pink color.

It is the effusion of coagulable lymph upon the surface of inflamed membranes that are habitually in contact that causes them to cohere; as in the serous membranes; such as the pleurae and peritoneum, fibrin may be poured out in sufficient quantity to form successive layers, so as to nearly, if not quite obliterate a cavity, as in Pericarditis.

In the healing of wounds there are some conditions, which seem to ensure this adhesive stage of inflammation; first, the inflammation

must reach a certain degree of intensity, or no lymph will be poured out; or if it goes beyond a certain degree, the formation of pus will interfere with the adhesive process.

Suppuration, or the formation of pus, is that process by which the matter of sores and abscesses are produced.

Healthy pus is an opaque, smooth, yellowish fluid, of the consistence of cream, and has little or no smell, and is void of acrimony; this kind of fluid is found to discharge from healing wounds, of a healthy nature, and phlegmonous abscesses.

The qualities of pus are liable to alterations by various circumstances; as in the weak constitution the result of a low degree of inflammation, we find the pus thin and almost transparent.

Sometimes it is slimy from its being mixed with mucus, or it may be curdled and flaky; such as is commonly seen in scrofulous persons; or if it has been long exposed to the air it is fetid.

The formation of pus in the cellular tissue is generally by the effusion of coagulable lymph

with, or without the effusion of serous fluid;

The effusion continues, the tissue becomes distended and broken down, and pus appears in minute particles, poured forth, or secreted by coagulable lymph, after it has become organized, and converted into a sac which contains the pus, which may secrete more according to circumstances.

The indications of suppuration, are a sense of weight in the part, and an abatement of fever, and a change in the pain, which is rather a dull uneasiness, ~~more~~ than a pain, and sometimes the patient complains of a throbbing which he feels at each pulsation of the arteries.

Ulceration may occur in two ways first by congestion, which is by the capillaries becoming distended with venous blood, which stagnates, or nearly ceases to return; which causes as a matter of course, the serum to be effused under the cuticle, which raises it in the form of a blister, which when removed exposes a darkish layer, which may slough out and form an ulcer;

as for example, such ulcers as we frequently find on the legs of old dropsical persons.

Sometimes there seem to be a combination of inflammation and congestion; in those persons who are broken down and debilitated by intemperance or privation, and there is not vitality enough in the system to support inflammation, ~~without~~ snapping the last vital chord which holds him in existence.

Inflammatory ulceration is similar to the formation of an abscess; the formation of an abscess is in the substance of a part; while ulceration may be restricted to those solutions of continuity, from which an ichorous sanious or vitiated matter is discharged.

In the first place, in the process of ulceration, there is an exudation of serum or unhealthy pus into the inflamed part which raises the cuticle; when this pustule, if it may be so called, is opened it discharges a ~~white~~ greyish matter, which appears to consist of lymph or of unhealthy flaky pus, which when wiped off, the surface underneath is red and

easily bleed if touched.

Violent inflammation may cause the death of a considerable portion of a part in a short time, which may or may not become a sloughing ulcer.

Mortification always means the death of a part of the body, or the conversion of such part into a dark colored, fetid, cold, insensible mass with which the general nervous and vascular system no longer has any ^{organic} communication.

Inflammatory mortification, or mortification the result of inflammation is generally recognized by the following peculiarities; first, the redness assumes a darker hue, and becomes a purple or blue; decomposition takes place, vesication appears, filled with a dark colored liquid which elevates the cuticle, like a blister.

This species of mortification is called humil gangrene.

When some marks of vitality remains in the part, it is termed gangrene; when it has

lost all natural heat circulation and sensibility it is termed sphacelus.

VI.

Dissertation

on

Emetics,

by

Henry Eddy, M.A. (of Guilford)

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination,

1857.

Emetics

Under this term we include all those medical substances which have the power to excite vomiting; and we exclude from it all those substances which (on being received into the stomach) as articles of diet incidentally produce the same effect.

Vomiting is a complex act, involving as it does various organs, muscles and nerves.

The stomach does not, as

some have supposed, act alone. Its nerves are first affected by the emetic substance; and as a consequence a peculiar sensation is communicated to the brain.

Subsequently the ordinary muscular action of the stomach is reversed; and at the same time the various abdominal muscles are thrown into a state of violent contraction. Thus by the joint action of the stomach and abdominal muscles the contents of the stomach are rejected.

The phenomena which are witnessed in this operation are various. The different stages of it resemble very nearly those which occur during the progress of a fever.

There is first the cold stage, which is followed by a stage of



reaction; and this is succeeded by
by a period of debility or exhaus-
tion. Soon after an emetic sub-
stance is received into the stom-
ach a marked impression is pro-
duced, and except in cases where
those emetics are taken which
operate with the greatest rapidity
the impression is manifested in
the countenance and general ap-
pearance of the individual.

The blood is withdrawn from
the surface and concentrated ap-
parently upon the internal vi-
cera. The countenance becomes
pale. The pulse is less frequent
and feeble and at times irregular.
The extremities are cold. The vital
power of the system is apparently
diminished. There is a fluttering,
or tremulous motion of the stom-
ach. Air is expelled from it. In
this remulous movement the

abdominal viscera participate.
This is the period of depression,
produced it is supposed by
the degree of nausea which is
present. It answers to the cold,
the torpid, the depressed stage
of fever. After a certain time has
elapsed a marked change is
manifest. It is the ushering in
of another period — the period of
reaction. There is a rallying of the
vital powers. The pulse becomes
full and strong. The countenance
becomes flushed. There is a throbbing
of the temporal arteries. The
blood which but just before was
concentrated upon the internal
viscera is now determined to the
head. The stomach and abdom-
inal muscles rally for the pur-
pose of expelling the nauseating
and offending substance. Warmth
is restored to the extremities. There.

is a degree of moisture or perspiration found upon the skin. After the emetic substance and the contents of the stomach are expelled, the nausea subsides, a period of debility or exhaustion ensues. The pulse gradually returns to its usual standard of frequency and fullness - often sinks below its ordinary standard.

There is on the part of the individual thus affected a disposition to sleep and a general relaxation of the muscular and nervous system. In this state he continues for a considerable length of time. This is the period of exhaustion, answering to the last stage of fever.

In the hands of a judicious practitioner, emetics are capable of answering many and various important purposes. On the contrary by injudicious administration or

by an indiscriminate use of them in cases to which they are ill adapted they may be productive of much evil! They should like every article which he has occasion to prescribe, be dealt out in the exercise of that discretion which is the better part of wisdom.

They may be advantageously employed whenever the stomach becomes oppressed or irritated by injurious or indigestible articles of diet. In cases like this the stomach is readily emptied of its contents and the system is relieved of a burden which otherwise might prove to be too grievous to be borne.

They may be employed also with a view to prepare the system for the successful administration of other and more important remedies. Not unfrequently some impression needs to be

produced upon the system before the remedies which it is desirable to employ, will produce their appropriate and designed effects. In this case they constitute a part of one general plan of treatment and are not employed except in reference to that plan. They are preliminary merely to the subsequent steps, which are to be taken.

They may be employed also for the purpose of obviating the danger and forestalling the fatal consequences, which might result from the introduction of poisonous substances into the stomach. These substances do not necessarily of themselves produce crisis, and if they are not removed by art or by appropriate cruetes their destructive and fatal effects must be experienced —

Emetics are also appropriately employed when no other object is aimed at except their revulsive effects. They are often powerful and successful agents in changing morbid action in the stomach and other organs, which are indirectly affected by the emetic operation. In this operation the liver, the Pancreas, the duodenum and sometimes the whole intestinal canal become affected. The peristaltic action of the duodenum is reversed. Bile is more abundantly secreted and if emesis continues is thrown into the stomach. By sympathy new impressions are made upon different parts of the system. Morbid secretions are allayed and healthy ones induced. Morbid excitement both in the nervous and sanguiferous system is equalized. Obstructions are removed. The

consequence is salutary changes are produced in the vital condition of the stomach and abdominal viscera.

Their mechanical effect also is often striking and salutary. By the spasmodic and violent contraction of the respiratory and abdominal muscles the lungs are compressed and the bronchial tubes are often relieved from obstructions. Their effect is both local and general. That is by their mechanical and therapeutical operation important pathological changes are produced. Not unfrequently an entire revolution is effected by their agency. Consequently the stomach and the various organs which are affected are prepared to commence anew their varied functions. An agency so widely extended in its effects so

revolutionary in its character is capable when rightly directed of being successfully employed in a great variety of circumstances. It is an agency which may be employed in diseases which differ as widely from each other as the various effects to which we have alluded.

Emetics are demanded in a sluggish and torpid state of the system for the purpose of arousing it to action, with a view to call forth its dormant energies. A shock like that which they are capable of imparting is often successful in starting anew the main springs of healthy action in the system.

They are demanded also whenever the secretions or excretions of the body become vitiated. In such cases they are employed for a double purpose, not merely to remove vitiated matters from the

system but to cut short the period of morbid action. In this way depraved secretions and excretions are corrected.

They are demanded also in many cases of congestion. They serve to remove obstructions and to excite absorptions and are thus effectual (like the loco-motive) in leading on a train of consequences the most salutary.

They are demanded also in certain eruptive or cutaneous diseases. They serve to produce diaphoresis, and whatever has this tendency is admirably fitted to bring out upon the surface that eruption which may have been retarded or suppressed.

Having specified to some extent the different pathological conditions of the system in which emetics are admissible I shall not

give in detail a catalogue of the particular diseases in which they are indicated. As different objects are aimed at in their administration, it becomes the practitioner to select that particular emetic substance which is best fitted to answer the particular end which he wishes to accomplish. Should he administer to a feeble and worn out patient in the last stage of fever, a full dose of tartar emetic, instead of the sulphate of zinc, where the indications were merely to evacuate the contents of the stomach, the operation might speedily prove fatal. Or should he in a rapid case of croup, rely upon a dose of the sulphate of zinc, which is merely sufficient to empty the stomach of its contents, his patient might be lost through the inadequacy of the remedy to meet

the exigency of the case. There is
a demand for the exercise of his
best judgement and discrimina-
tion.

Henry Eddy

New Haven, January 15, 1851.

Dissertation
on
Apoplexy
by

Francis Cols Greene
of New Haven,

Candidate for the Degree of Doctor in Medicine,
Examined by the Professors in the Med. Instⁿ of Y. College
September 26, 1850.

Apoplexy.

This term is derived from the two Greek words $\alpha\pi\omicron$ and $\pi\lambda\eta\sigma\sigma\omega$, and signifies a blow or stroke.

This disease was regarded by the ancients as little short of the miraculous, and as the means by which the Gods occasionally removed those who were too wicked, or perhaps too good to remain longer on the earth. The researches of even the earlier anatomists tore aside this veil of superstition and exhibited the matter in its true light, as the legitimate effect of a natural cause.

The disease may make its attack in several different ways, the most common of which is that in which the remarkable feature is its suddenness. It may attack a person in any place or in any position.

While sleeping or pursuing his customary avocations, he is stricken down in an instant, and often without any appreciable warning or premonitory symptom. The patient falls suddenly to the ground and lies unconscious to all external impressions. The face and especially the lips are swollen & livid; the pulse is full and generally slow; the bowels, torpid; the breathing, stertorous, and the muscles of the cheek, lips, & nostrils being loose and flaccid, these organs make, at each inspiration & expiration, a loud, flapping and blowing sound. At the same time a little frothy saliva is thrown out of the mouth, which might possibly lead the superficial observer to mistake this disease for Epilepsy. The eyes usually are closed and the pupils dilated, but this is not always the case, for sometimes the pupils are contracted almost to a point, which is considered by many a fatal symptom. The limbs usually hang loose and powerless, but occasionally one or

more of them are stiffened with slight convulsive twitches of the muscles. The whole appearance of the patient is very much like that of a person under the influence of an excessive quantity of intoxicating liquor, or of some of the narcotic poisons. This similitude is so great as to cause mistakes fatal to the patient, as well as to the reputation of the Physician. This comatose state may continue for a variable length of time, from a few minutes to many hours, and some authors give accounts of cases which terminated fatally favorably after the stupor and insensibility had continued for several days. When the attack is about to terminate fatally, the skin is covered with a cold, clammy sweat: the pulse is increased in rapidity: the ability to swallow is lost: the respiration is more labored and difficult, until the patient dies, the contractions of the heart continuing for some seconds after the breathing has entirely ceased.

on the other hand if proper assistance is
rendered in season the patient recovers more
natural the expiration ends. The purgidity and
lividity of the countenance decrease, the mental
powers are gradually awakened out of their
deep sleep and after a time the body and
mind return to their former healthy condition.
This complete recovery however is less frequent
than could be desired for paralysis, total
or partial, is too often the sequel.

The mode of seizure next in frequency is
that in which the first symptom is a
severe pain in the head which continues to
increase with repeated fainting, its and
slight convulsions of one or more of the
limbs, the mental faculties becoming by
degrees more and more obtuse until
profound coma comes on which is commonly
of greater duration and much more
dangerous than that of the first mentioned
class.

Yet a third access of this disease, which

is sometimes seen, is total or partial hemiplegia which eventually leads to the same results as the before-mentioned symptoms but more slowly and at the same time less certainly. Although this class of cases is not so immediately or certainly fatal as the others, the proportion of those who recover their perfect health is thought to be less.

Apparently so sudden and usually so unexpected, it is comparatively seldom that one is attacked by apoplexy without some premonitory symptoms, though they may be so slight as to attract no attention. There are a sense of weight & fullness of the head; drowsiness, which will be felt perhaps for months preceding the stroke; throbbing head-ache; vertigo; imperfection or perversion of the senses of sight & hearing, with occasional numbness of the limbs & twitching of their muscles.

Though an acquaintance with these different forms of the approach of this disease is absolutely necessary in order to form a

correct diagnosis the treatment after the Comatose state has supervened, is essentially the same in all, they being referable to the same cause.

The causes of Apoplexy are divided into the proximate the exciting & the predisposing.

The proximate cause, which is no less than the disease itself (of which the Coma is merely a symptom), is always pressure applied to the substance of the brain. This may be in different ways, of which the most common is that in which the pressure may be applied by the rupture of some one, or more of the small blood-vessels of the brain, allowing the blood to be effused into the Parenchyma of that organ. This has received the appellation of ^{apoplexy, or cerebral} sanguineous Hemorrhage. It may take place in any part of the brain, but is more frequently observed in the hemispheres of the Cerebrum, and in, or near the Corpora striata and thalami optici. The effused blood may find its way into the ventricles,

but is rarely forced out directly into them. When blood is extravasated externally to the membranes of the brain, it is almost invariably caused by some of the vessels being wounded by a projecting portion of carious bone.

All the arteries of the brain may become ossified to such a degree that the slightest blow or increase in the force of the circulation will cause a lesion of one or more of these vessels, and the smaller are more likely to be injured in this way than the larger. The blood when extravasated into the parenchyma of the brain, meeting with an equal degree of resistance in every direction, assumes a globular form and soon coagulates forming a clot around which is formed a serous membrane which slowly absorbs the serous part of the blood, the cell becoming at the same time smaller and its contents firmer, until there is left nothing but a small cicatrix around which the brain often

becomes softer than natural. This softening is said by some to be as often the cause as the effect of cerebral hemorrhage. The amount of blood thus poured out is variable, from a few drops to an ounce or more, and, as the quantity is greater or smaller, the probability of recovery is increased or diminished. The situation of the effusion also makes a material difference in the chances of recovery, the smallest pressure on some parts of this delicate organ being accompanied by more marked effects, than more considerable violence on others. But this can make no particular difference in the treatment, as it is not known until after death when, or how great, is the pressure.

Serous Apoplexy is the same set of symptoms caused by the exhalation of serum from the membranes of the brain either within the ventricles, or externally between the brain and the skull. With this, as well as with the sanguineous class, there is frequently a fullness & tension of the vessels of the brain. In what is called

simple Apoplexy, this determination of blood to the encephalon is often the only visible cause, and not unfrequently this leaves no traces which can be discovered in a post-mortem examination. It is at present a disputed question whether this negative evidence proves that Apoplexy may exist without leaving its traces in the dead body, or want of sufficient care in the dissection. Sometimes traces of inflammation are found in the brain & its membranes, which is considered the cause of the serous effusions.

The exciting causes of Apoplexy are any thing which will increase the force of the cerebral circulation in those predisposed to it. Such an full and hearty feeding, the use of a large quantity of spirituous liquors, violent exertion of the body, or the exciting passions of the mind. Positions which cause the blood to gravitate to the head are particularly dangerous to persons who have a predisposition to Apoplexy. It may be caused by exposure to the heat of the sun, by tight

bandages around the neck, or by the use of
Narcotics. Very great cold will stupify one
exposed to it, and cause symptoms resembling
apoplexy and may occasionally be ^{an} (the) exciting
cause of this disease.

The predisposing causes of Apoplexy may be
the habitual recurrence of those which at length
become the exciting causes, such as high-living,
Lard drinking &c. But the most effectual
predisposing cause is old age combined with a
full and plethoric habit, with a short neck
and an inclination to corpulency. Indolence
and too much sleep, though they may not
commonly will certainly very materially assist
this predisposition; so also will protracted
distress of mind. A diseased state of the
blood-vessels of the brain (generally ossification)
and those thoracic diseases which impede the
flow of blood through the lungs, will often
be competent predisposing causes, as well as
a cessation of the menses or any other
habitual discharge.

Apoplexy has been considered by some as hereditary, and it may be so, inasmuch as the form of the body, and the temperament of the mind are so commonly found to be transmitted from the parent to the offspring.

Ischuria renalis will often prove both the predisposing, and exciting cause, the urea remaining in the blood acting as poison on the brain and causing fatal coma. It is stated that Apoplexy supervening on suppression of urine is always of the serous kind.

The consequences of a stroke of Apoplexy, when not immediately fatal, are too often such as leave the patient little to enjoy during the remainder of his days. Occasionally the mind and body may recover their former tone and vigor, but the predisposing causes still exist and in a state of greater activity than before, so that the mind of the patient will be continually harassed with fears lest each day bring with it another visitation of the disease. But in a

much larger proportion of cases, the consequences are paralytic affections of greater or less severity, which may extend to all the voluntary muscles of one side of the body, and is then called Hemiplegia. This is always situated on the side of the body, opposite to that upon which the cerebral hemorrhage has taken place. The palsied limb is colder than natural, and, being less competent to withstand the extremes of heat & cold, mortification is easily excited; the muscles from want of use become atrophied, and the limb would be shrunken to much less than its natural size, were it not for the anasarca consequent upon the veins losing the pressure of the muscles upon them, and allowing the serous part of the blood to be exhaled through their coats. The patient lies perfectly helpless, the digestion, the respiration, and other functions of organic life going on without disturbance, until by degrees the use of the palsied limbs is recovered, or, what is more frequently the sequel, the patient is worn out

and dies from exhaustion. When recovery takes place, the leg recovers sooner than the arm, and when the palsy is partial, the former is less liable to the disease than the latter.

Anaesthesia, or loss of sensation, is another of the effects of Apoplexy. The same rule, which applies to paralysis, is applicable to this, though in a less degree, viz. that it occurs on the side opposite to the Hemorrhage. This is less distinct than Palsy, and sometimes accompanies it.

Mental derangement & imbecility may follow an Apoplectic attack. The memory in particular is likely to suffer, and any or all of the nobler traits of character, which have been possessed before, may be lost or debased. This is a consequence still more deplorable than any bodily ill, and recovery from it is very rare. When, as is often the case, the Hemiplegia is accompanied by mental derangement, the chance of recovery is small indeed.

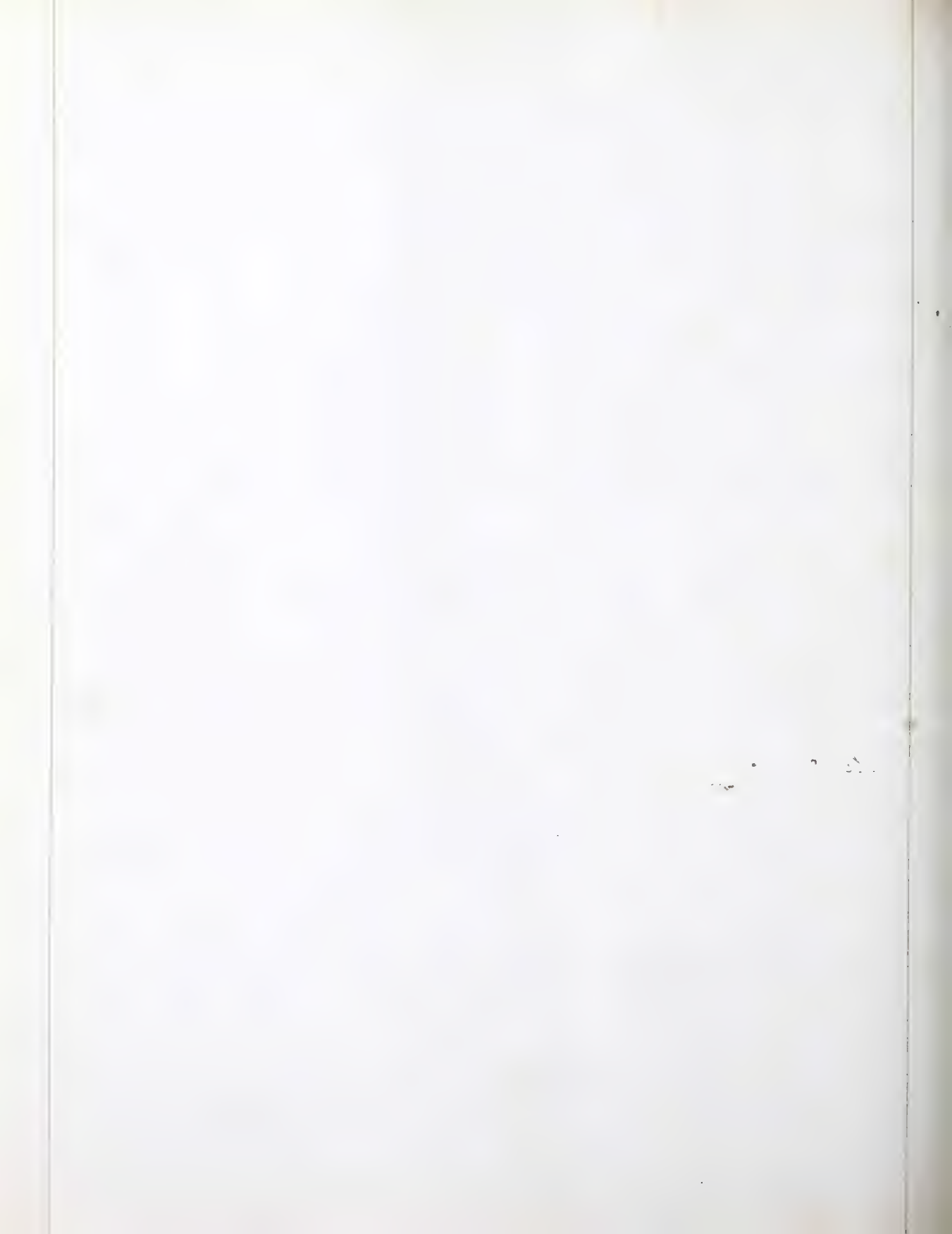
While suffering under the attack, the patient should be placed in an horizontal

position with the head raised, and all tight clothing should be removed from the neck. When the pulse is full, strong, and regular, blood-letting will be found necessary. This, when practiced, should be done freely. When the head is hot, ice and other cold applications are serviceable. Purgatives are generally indicated.

In the atonic or asthenic form of Epilepsy, when the skin is pale and the pulse small, the object is to arouse the vital energies. For this purpose, nervous stimulants and external irritants should be employed. In short the treatment should be guided by the symptoms as they arise, and not by the name of the disease.

J. P. Jones





VIII.

—
Disputation

on

Ventilation

by

Storrs Hall, B. A. Midd. Coll.

of

Candidate for a Licence,

at the

Adjourned Examination,

March 26, 1857.

Ventilation.

Surrounding the earth every where, and extending upward to a distance of about forty five miles, is the air, an elastic, colorless and inodorous fluid, capable of being put into motion by very slight forces. Although it is invisible, it is easily proven to have weight, by the simple means of condensation or exhaustion; and as it is elastic, the pressure exerted by it, increases as we descend and decreases as we ascend. At the level of the sea, its accumulated weight exerts a pressure of about fifteen pounds to the square inch, and will support a column of mercury thirty inches in height. This fluid is necessary to the life and health of man, animals and plants; without it they die, and with it, diminished in quantity or deteriorated in quality, they draw out a feeble and sickly existence. It will be the object of this essay to briefly examine some of the

reasons for a necessity of having a pure atmosphere for respiration, procured by means of a constant change of its particles, constituting ventilation.

The two gases, oxygen and nitrogen, constitute the component parts of pure atmospheric air. According to Dr. G. Thomson, there are twenty parts of oxygen and eighty parts of nitrogen, in every one hundred parts of the atmosphere. These proportions are constant, whether the specimen is obtained from the torrid, temperate or frigid zones, from the highest flight of the balloon or the deepest cavern, visited by man. There is always present in the atmosphere, a very small proportion of carbonic acid gas - but in most circumstances so small as to be disregarded - it not usually exceeding the one thousandth part of the whole. Whether these gases are held together by means of chemical combination or mechanical coagulation is not within our province, at present to enquire. Besides the above, there are always present, other substances, which are either general or local in their distribution, and produced by adventitious circumstances, rendering the climate of any particular place salubrious or unhealthy, according as the atmosphere is more or less contaminated with them.

"In the structure of the lungs" Magendie has remarked, "nature has solved a problem of the greatest difficulty". This problem is "to present the largest amount of surface of contact between the air and blood, in the small space of the lung". This is accomplished by the minute vessels in which the pulmonary arteries terminate and the pulmonary veins commence, being surrounded by air. The lungs are two organs, situated in the thorax, and, together with the heart and large blood vessels, fill its cavity. They are conical in shape with their apices superiorly. A reflexion of the serous membrane, lining the cavity of the chest covers them; and the mediastinum and heart separate them from each other. They are composed of the ramifications of the bronchial tubes, which terminate in air cells, and of the ramifications of the pulmonary arteries and pulmonary veins, nerves and lymphatics. These, held together by areolo-fibrous tissue, constitute the parenchyma of the lungs. Various mathematical calculations, as to the number of air cells, and the extent of surface exposed to the atmospheric air by the innumerable ramifications of the bronchi, but all that can be derived from these conjectures is, that the extent of surface is immense, considering the small size of the

"The blood is that fluid which is circulated chiefly by the power of the heart and arteries, over the whole animal frame, of every part of which, it constitutes an essential ingredient. The blood must be viewed as arterial and venous. The former, of a florid color, flows from the extreme parts of the lungs to the extreme parts of the system, the latter, of a darker hue, returns from the system to the lungs." The former affords nourishment to the different structures of the frame, and is essential to life and health; the latter, loaded with carbon, is unfit for the use of the system, until it has been decarbonized and purified in the lungs. This is sufficiently proven from the fact that it is in the lungs, properly filled with air, the blood is changed from the dark hue of the veins, to the bright, florid color it appears in the arteries; and that "in high orders of animals, life ceases in a few minutes after the blood is prevented from assuming the arterial character in the lungs, by cutting off the contact of the atmospheric air.

The difference in the color of the arterial and venous blood has been fixed upon, as a sufficient distinctive mark. Were we to enter upon an examination of the

Chemical decompositions and combinations which take place in the lungs, whereby the blood is changed from its venous to its arterial character, the enquiry would result in more speculative than useful knowledge. Nor is it necessary for our purpose to enter upon such investigation. One fact alone is sufficient, and that is, that oxygen disappears from the air in the lungs, and carbonic acid gas is returned in its place. Were a little limpid lime water agitated in a bottle containing pure atmospheric air, the appearance of the water would not be changed. Let now, air be drawn into the lungs and then expelled into the bottle, and agitated, the water immediately becomes turbid, thus exhibiting the presence of carbonic acid. Again if air, after having been detained in the lungs for a few moments, be thrown into a jar filled with water, in such a manner that the water shall be displaced, and then a lighted taper be thrust into it, the blaze is immediately extinguished; showing that the oxygen has been displaced by some gas, unfitted for ~~that~~ support of combustion, and consequently, unfitted for respiration. It is also now well ascertained, that more oxygen is consumed in the lungs, than is sufficient for the produc-

tion of the carbonic acid exhaled, and that a small portion of the nitrogen also disappears; and that the exhaled gases are saturated with moisture.

An animal confined in a small portion of atmospheric air soon becomes agitated, pants for breath and then dies. Another confined in pure oxygen gas becomes exhilarated, all his functions are suddenly and rapidly increased, he lives for a time in the highest enjoyment of animal pleasure, but soon languishes and dies. Another ^{confined} in nitrogen soon expires. - So also if one is confined in carbonic acid gas, it perishes immediately. If these animals are examined after death they will all exhibit one appearance - the blood not arterialized. And if the residual gases are examined, they will be found to contain carbonic acid while the oxygen is diminished in quantity. Thus will be exhibited, that, not only is air necessary to life, but air containing a certain amount oxygen. And here we might rest the argument. All the functions of the healthy system are combined in more or less sympathy with each other. The body must be fed, not only with food proper for its use but with air of a quality suited to its wants; and as the food is constantly consumed, and its place supplied with new matter, so also



must the air be constantly renovated by fresh supplies in order to meet the wants of the healthy individual. There is no other conclusion at which we can arrive, from the consideration of the above facts; unless we adopt the reasoning of the Homoeopathist — then, perhaps we might be induced to catch the expired breath in a bottle, give it "two shakes", and then inspire it with increased potency in its effects.

Again, the consequences of a vitiated atmosphere might be inferred from the phenomena attendant upon the ratio of the respiration to the number of the beats of the heart. This is found to be in the healthy individual as one to four and a half. If the pulse rises in frequency the breathing becomes hurried in order to supply the deficiency of the atmospheric air, and the consequent elimination of deleterious substances from the blood in its rapid passage through the lungs. If the cavity of the chest becomes partially filled with tumors or infiltrated liquid, preventing a due supply of air from entering the lungs, the breathing becomes

hurried and laborious; if the tumors enlarge or the fluid increase so as nearly to fill the cavity of the thorax, the patient dies asphyxiated. During the same result takes place in ulceration and excavation of the lungs, they not thus presenting a sufficient surface for the contact of the blood with the air for its proper artificialization. Some persons have been able to control the frequency of the beats of the heart by means of a rapid or slow respiration, and have even carried their experiments to such a degree as to create an alarm, on the part of their friends and attendants, for their safety. These facts would seem to indicate a close connection between the functions of respiration and the circulation of the blood.

Air once respired contains nearly six per cent of carbonic acid, but however frequently the same air is breathed it never contains more than ten per cent, thus putting a speedy limit to the time, any given quantity, will sustain life. According to the mean of three estimates, the quantity of carbonic acid eliminated from the lungs in twenty four hours is near 28.736 cubic inches or nearly twenty cubic feet. The quantity

of air thrown out by respiration in twenty four hours is estimated at six hundred sixty six and a half ^{cubic} feet, but a much larger quantity is vitiated and unfitted for respiration by admixture with the contaminated air.

"To what degree, then, may the air become vitiated, and still sustain life? and what is the smallest quantity of pure air a person needs, each minute to maintain good health? Birnam says that air in which there is more than three and a half percent carbonic acid, is unfit for respiration; and as expired air contains six percent, it clearly shows that it is unfit for respiration. Dr Reid allows ten cubic feet of air as the smallest quantity proper for healthy respiration each minute". Taking these data for our guide, the air in a room twelve feet square and seven feet in height would be vitiated and unfitted for respiration, by one person in about one hour and forty minutes, by two persons in fifty minutes, and by four persons in twenty five minutes. Calculations similar to the above might be indefinitely extended, but would only lead to the results.

"We carefully remove impurities from what we eat

and drink, filter turbid water, and fastidiously avoid drinking from a cup that may have been pressed to the lips of a friend. On the other hand, we resort to places of assembly, and draw into our mouths, air loaded with effluvia from the lungs, skin, and clothing of every individual in the promiscuous crowd — Exhalations, offensive to a certain extent, from the most healthy; but when arising from a living mass of skin and lungs in all stages of evaporation, disease, and putridity — prevented by the walls and ceiling from escaping — they are, when thus concentrated, in the highest degree deleterious and loathsome.

The rapid contamination of the air contained in any apartment occupied by individuals, and their usual small size, are sufficient reasons for there being some means provided for ventilation, or change in the particles of air. And if this necessity exists for the health of such as are well, much more is there a necessity for pure atmospheric air in the case of those that are sick. It will be sufficient here, merely to allude to this subject. And the remarks made in medical works, that in various diseases, care

should be taken to procure a good and wholesome air, and this remark, so often repeated, that it would seem hardly possible that any person could fail to see and feel the necessity for particular care on this point. But how often, in visiting the sick chamber, do we find every opening, every crevice, by which the air can enter, carefully stoppered; and the room crowded with the anxious friends, rapidly exhausting the oxygen of the atmosphere, for which the poor sufferer is panting, and giving him in its stead, the poisonous carbonic acid. They pity the distress they see, and which in part they occasion, without being able to alleviate it. They would gladly do any thing to lessen his sufferings, but they cannot on any account leave the room, or open the door for the admission of fresh air. Often, under such treatment, is the malady rendered doubly malignant. I am no advocate for the admission of the air through cracks and crevices. There should be proper means of ventilation. But it is better, far better, that it should thus enter, than not at all. Without a pure atmosphere, medicines are of little avail; but like all other hygienic articles, it should be properly administered.



IX.

—
Dissertation

on

Ophthalmia

by

Jonathan Jones Howard

of Richmond, Kentucky,

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination,

1851.

When a determination was taken, to write a dissertation in obedience to the laws of this Institution some difficulty was felt as it regards what subject should be selected for the foundation of the remarks to be made, and one is thought better calculated to answer the purpose than that of.

Ophthalmic disease.

As a matter deserving serious attention, the eye, perhaps is an instance not much superior to any other organs belonging to the animal system. But when viewed in connection with its functions (vision) and all the blissing and pleasures which are enjoyed through the instrumentality of that sense, its importance is seen to magnify. To the Physician no arguments are necessary to convince him of the necessity of an entire acquaintance with the structure of a useful member; and of a thorough familiarity with all the diseases to which it is incident; many of

which, when subjected to the management of the
most enlightened the physician is often not
only impossible, but very frequently meets
its entire destruction, and thereby inflicts upon
suffering humanity one of the severest privations
of which conception can be formed. If therefore
the eye of our most valuable sense be thinned
as if the most delicate organ of the body be
the subject of disease, a familiar knowledge of
its anatomy, physiology and pathology are all called
in requisition by the physician whose lot it may
be to have to treat the disease of such an or-
gan, and without which there is no apology, per-
haps one may be found engaged in the discharge
of professional duty destitute of an adequate
knowledge of either. Ophthalmia — as treated
of by many authors is with vagueness un-
derstood to be an inflammatory disease affec-
ting the membrane of the eye, or the whole
bulb of the organ itself, without particu-
larly designating in a special manner the
particular tissue which constitutes the seat of
the morbid appearances.

10
The eye is known to be an organ into the composition of which a variety of structures enter. This being essentially necessary to enable it to perform the functions which it does.

In the eye is found a transparent medium to refract the rays of light. — a nervous expansion to receive the impression made by those refracted rays, and a protecting covering of opaque membrane. The cornea and humours forming the transparent medium — the retina forming the nervous expansion upon which the refracted rays are received, and the sclerotics, choroids and iris, forming the opaque investments of the more delicate and important parts.

That while the transparent humours are enclosed in serous membranes, the globe is in part covered by, and intimately attached to the lids by means of a mucous membrane (the conjunctiva).

From such a variety of structure it

might naturally be expected to see a variety
of similar phenomena; and in such a specula-
tion there is no disappointment.

It is found as a matter of consequence that
in the nervous structure of the retina,—
the muscular texture of the eye,—in the tend-
on texture of arteries,—in the serous mem-
branes of an aqueous humor,—and also in the
mucous membrane which invests the whole, a
striking similarity is borne by each individual
tissue to other tissue of the same kind
—entering into and making component
parts of other organs situated in and answering
to other purposes in the animal economy, and
—like the kindred subject is common—
from the operations of the same class of causes
which enter the same tissue when coming en-
tering into and making component parts of
other organs.

As the eye is the striking analogy of the ear
—tissues of the eye to tissues of many other
organs of the body it is necessary only to refer
to anatomy and make the explanation.

If therefore the anatomical analogy of the
upper part of the eye, to the sinuses
of other parts be true, and if it also be
true that they are equally subject to the
inflammation, it will follow, as an obvious
truth, that just as we infer that the dis-
eases created in and affecting those analogous
tissues are also analogous. In proof then
of the similarity of morbid action as one
is manifested in similar tissues, attention
must only be directed to what transpires
in common catarrhs. The ordinary effects
of which are well known to every body.

If an individual has been exposed to
a cold damp atmosphere, a morbid action
is at once set up in the Schneiderian mem-
brane in the Larynx, in the Canals ^{in the} Bron-
chia and its tubes, or in the Lungs, con-
junctiva, which is when seated in the schneider-
ian, called cold in the head, in the Larynx
Laryngitis; in the Bronchia and its tubes,
Bronchitis; in the Lungs, Pneumonia; and

When the conjunctiva is inflamed, accordingly as is the fact expected so is a name given having some reference to the part.

As a treatise upon every variety of ophthalmic disease would of necessity be lengthy, and as it is desired not to trespass upon time nor patience; it is thought best to restrict the remarks which are to follow to the catarrhal variety alone.

The cause of catarrhal ophthalmia has already been hinted at as common to catarrhal affections in general; the symptoms will be found common also.

The first symptoms are a sharp, itching, burning, sensation confined at the onset to a small point of the tunica which lines one of the eye lids very analogous to that sensation of uneasiness produced by the introduction of a small bit of hard substance (a grain of sand); and is confidently thought by the patient to be produced from the introduction

1.
of a foreign body.
Upon a more minute inspection however
it will be seen that the catarrhal af-
fection differs materially from inflammation
which has resulted from the mechanical
influence of a hard body in several partic-
ulars.

In the catarrhal variety if the inflamed
eye be seen at the commencement, upon
operating the lids the focus of inflammation
will be found to be exceedingly small
and invariably confined to one of the
conjunctival surfaces only; and that one
is almost always that which lines the lid;
whereas if the inflammation has resulted
from the operation of a mechanical cause
it is more diffused and in addition to
the inflamed point on the lining of the
lid there is a corresponding point of in-
flammation situated on that part of the
conjunctiva which is reflected to the globe,
and which answers exactly to that upon the
lining of the lid, caused by the constant

and uniform before given to the globe by the lids, and by the perfect sliding of their two opposing surfaces upon each other. In either case the eye is said to weep, and water freely, but more abundantly when the cause is mechanical than when it is catarrhal. The secretion at this period is either is lachrymal, but in the catarrhal there is a hot, scalding ichorous property in its secretion that is not in that of the other variety. As the disease advances the amount of inflamed surface increases; but not in a diffuse manner, but rather in the inflammation extended in patches which increase until the entire membrane throughout its whole extent is in a high state of inflammatory excitement, according to red, injected blood vessels to be seen plainly extending themselves tortuously from backwards towards the corner of the organ. Light in the early stage is insupportable, and when the surface of the membrane

becomes, in the end, in the entire extent, the eye
feels hot, rough, dry, and itching; but as
secretion now begins to increase, it also under-
goes a change from its former lachrymal
or semi-transparent quality, to that of a thick
yellow mucopurulent fluid, and light again
becomes less intolerant.

The secretions in every stage of the affection
is to some extent characteristic of its true
nature, being at the onset semitransparent
and scalding, and next mucopurulent, but
rarely is it profuse.

If the attack be severe the secretion is
profuse and amounts to a discharge which
is poured over the cilia and lids forming
incrustations which glue the lids together
and close the eye.

Pain of a throbbing and lancinating kind is
uniformly felt during the progress of inflammation
in the direction of the posterior
chamber, and the cavity of the anterior, each
of these neighbouring cavities being lined by
mucous membranes which are ^{as} ~~very~~ delicate.

tions of that which is common to the
eye, in some cases the cornea, the
Bronchia and in a word the whole respiratory
canal. If from exposure to the same pro-
ductive of common catarrh inflammation be
produced and have its seat confined to any
one portion of the canal of respiration
such as the place of the Schneiderian
membrane occurring in the shape of either
inflammation, a carbuncle or cold in the head;
A striking coincidence is observed, not only
is it even regard the same kind of prick-
ing pain experienced in the inflamed part,
is attended with shooting into the collateral
arteries, as the Arteries and venous sinuses
and the lacrymæ also coincide with those
of the eye both in point of quality; and
in observing the same changes.

The remarkable coincidence of healthy
as well as morbid phenomena evinced
by the several portions of the common
membrane establishes clearly their physi-

logical & pathological relationship, and strongly suggests the equal liability of either portion to become the seat of disease when subjected to the action of the same cause; and that the disease thus produced is uniform by the same requiring for its removal the same general treatment.

The constitutional symptoms which supervene when catarrh is seated in the conjunctiva, (ocular ophthalmia) are modified by two circumstances; first by the severity of the local symptoms, and second by the amount of embarrasment which may be existing in the secretory and excretory organs of the individual's general system at the time of the attack.

In very mild cases the constitution suffers but little but in the more aggravated cases all the febrile symptoms supervene, and usually assume the remittent character. The remission occurring in the day and the rise in the night, accompanied by an increased violence of the local symptoms, which constitutes ag-

and the characteristic of the cause of
the disease.

The natural ophthalmia has its seat
legitimately in the mucous membrane of the
eye it might be supposed that its ravages
would rarely if ever be extended to the
subsequent tissues, but such knowledge does
not occur. When it has been neglected or improperly
treated vision is often much impaired by
depositions of exaguable ^{lymph} either upon detached
portions of the cornea or between its different
layers. — Sometimes the proper function
of the eye is forever destroyed either by
slight microtic absorption supervening, or by
the formation of such granules from deposi-
tion as prove to be irremovable in after
life.

Now in as much as the disease is de-
cidedly one of inflammation and its cause
is simple the treatment should therefore
also be simple; and at the same time that
it is simple it must be both prompt and

energetic for the purpose of subduing general excitement, and also, arresting inflammation seated in an organ of a more delicate texture and more liable to the rapid progress of inflammation than any other in the whole system, as an agent answering both these indications with greatest certainty the lancet is to be resorted to in preference to all others. It should be used for the promotion of general bloodletting, sufficiently freely to reduce the circulation down to, rather something below the healthy pulse both in point of force and frequency; and until the local symptoms are mitigated, at least till the pain is removed. Short of the accomplishment of the two chief ends, will not be sufficient.

The most appropriate period in the course of the disease for the successful use of the lancet is in the early stage, and at that moment of time when the general circulation is most excited, and in addition to the lancet

24
Blisters and counter-irritants generally and spirally used offer an agency of essential importance both for the purpose of controlling action and thereby arresting the inflammation, but they are of equal value as correctors of the general secretory derangement.

Cathartics upon the principle of their being correctors of deranged secretion and secretion acting constitute another item in the class of general remedies of infinite value, and among these the mercurials are the most valuable. As it regards the use of local remedies but few are extolled or worthy of a trial among those which are worthy of trial are warm water in the form of bathing or ablutions and in the form of vapour constitutes the principle

J. Howard

~~X~~

—
Dissertation

on

Bright's Disease

by

Robert Hubbard

of Middletown,

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination

1851.

Bright's Disease.

The term dropsy is derived from the Greek ὕδρω and signifies an effusion of serous fluid into the cellular tissue or some one or more of the natural closed cavities of the body.

When the effusion is into the cavity of the peritoneum it assumes the name of Ascites; and if the cellular tissue is the seat of the disease the term Anasarca is applied; and General Dropsy includes Anasarca with effusion into one or more of the serous Cavities. The earlier writers on this disease seem to have entertained the most fanciful and absurd notions of its cause; and the Crude theories of Hippocrates, Celsus, Galen and their followers are now valued only as curiosities of medical literature.

The important discovery of the Lymphatics by Astruc opened a new field for investigation in medical science; and its most ardent admirers (as is usually the case in the discovery of new theories) were now ready to explain all the unsolved problems of our science.

Dropsy was by them referred to a rupture of the Lymphatics. The theories of the above-mentioned writers seem



to have had little foundation except in the fancy or prejudice of their advocates; and it was not until the well directed experiments of Lower that much progress was made in establishing a rational theory for the explanation of the nature and cause of dropsical effusion.

By tying the inferior vena and afterwards the jugular veins he proved that effusion might be caused by venous obstruction.

The next important step of progress was made by Haller who adopted the then general theory of absorption by the veins, and also lays down the opinion that dropsy may ensue not only when the veins are obstructed but also when the blood is retarded in its course through the veins by debility.

Hunter did little more than change the veins of Haller's theory into the favorite lymphatics of his own; denying entirely to the veins the power of absorption. The precise condition of the system which gives rise to dropsical effusion has long been the occasion of much difference of opinion among medical writers. Blackall, Abercrombie and others contend that both Anasarca and Ascites are often attended by and dependent upon inflamma-

tion; and adduce in support of this opinion the fact that the Antiphlogistic treatment is effectual in their cure.

Meigendie on the other hand claims debility as the cause, and introduces many ingenious experiments which seem at least to prove, what before was mere hypothesis, that the process of absorption may be retarded and that a plethoric state of the system is not favorable to the free exercise of this function. Numerous facts have established neither theory exclusively.

It is well known that many of the closed cavities of the body are kept moist by a serous secretion from the lining surface of their lining membrane, and to prevent accumulation and the consequent interruption of the animal functions, it must be absorbed, and this absorption must exactly counterbalance the secretion. Hence it is evident that accumulation must arise in one of three ways;—viz either from excessive secretion the absorption being the same; or from diminished absorption with the usual amount of secretion or possibly from excessive secretion and diminished absorption at the same time.

The question of absorption is still an obscure one; but the

experiments of Magendie seem to prove conclusively that this process is effected by the combined action of the veins, lymphatics and lacteals. Haller assigns to the lacteals the absorption of the Chyle from the Alimentary Canal; to the lymphatics the removal of the useless and effete portions from the body; while the veins imbibite the serous fluid from the serous Cavities and Cellular tissue. Granting this truly ingenious and beautiful hypothesis to be true, many of the phenomena of this disease can be explained.

The emaciation is attributed to the lymphatics which are in a state of morbid activity, and the dropsy to debility or obstruction in the venous system. But this theory seems insufficient to account for the sudden appearance of fluids in various parts of the system. It is now well ascertained that under certain circumstances fluids pass into and out of the veins through their parietes by mere physical imbibition and transudation independently of any vital process. In an overdistended state of the vessels fluids pass through their parietes into the surrounding tissues, and when they are comparatively empty the serous fluid is readily imbibed. To these processes severally Dutrochet

applied the terms Exosmose and endosmose.

Dropsy has received various names according to the particular organ in which it is supposed to originate, but we propose to consider only that form which arises from diseased kidney and for want of a better name usually called

Bright's Disease.

This disease as first described by Dr Bright is characterized by a peculiar change in the structure of the kidney attended as its most prominent symptom with albuminous urine. Three forms of dropsy connected with diseased kidney have been described:— the first commencing with the respiratory or circulating and united either from the beginning with disease of the kidney or resulting in it; the second commencing in the kidney and affecting the respiratory organs secondarily; and a third which is much rarer than the two former, in which the kidney is the only organ affected. The first is attended with nausea, vomiting, purging, pain in the loins and Coagulable urine. The second form begins with Anasarca which quickly extends throughout the cellular tissue and is frequently accompanied with inflamma-

tion of the lungs and serous membranes generally. Of the third Dr Bright has given an instance in which the only symptoms were extensive Anasarca and Coagulable urine with the red particles of the blood in considerable quantity.

The most important and reliable indications of serious renal disease are found in the Character of the urine. This in the early stage of the disease may not differ essentially in its sensible properties from the urine in health. It is said generally to be paler in color and secreted in larger quantities and to froth more than usual when poured in a full stream into the utensil; but in some cases the fluid is high colored scanty and of great density; these however are very rare. The presence of albumen was formerly considered as indication of more serious disease than subsequent observations have proved it to be; and it is now generally admitted that Albuminuria may arise from two entirely different Conditions of the System; the one indicating mere functional derangement - the other serious structural disease of the kidney. Albuminous urine has frequently followed the exhibition of Mercury

and has been induced by certain kinds of food. It is not uncommon in dropsy following Scarlatina and in the progress of Scarlatina itself and many other-inflammatory diseases. Hence we see that the mere presence of albumen in the urine is a symptom of little importance; but when taken in connection with other qualities of the urine yet to be considered it forms the most important diagnostic symptom in the disease under consideration.

In Renal Dropsy three peculiarities of the urine are found associated: - viz the presence of albumen, low specific gravity and scanty quantity. In Nephritis and some other diseases the urine is often in excess and of a specific gravity but little higher than water. Hence the specific gravity must always be considered with reference to the quantity passed in a given time.

The two conditions - low specific gravity and scanty amount commonly coexist in Bright's Disease but are not invariable. Dr Christian has shown that in the earlier and later stages of the disease - more especially in the former - the quantity of urine may very nearly equal the average of health. When mere functional derangement of the kidney exists although

the quantity of Albumen may be so great as to form with the urine a solid gelatinous mass, still the urea is found to be in a healthy proportion; while in the organic disease the quantity of urea is diminished in proportion as the Albumen is increased so that in the one case when the quantity of albumen has become exceedingly great the urea is entirely wanting; while in the other the albumen is merely in addition to the ordinary constituents of urine. These facts would seem to lead to one of two inferences:— That either the urea is not separated from the blood by the kidney or that in the process of elimination it had received a large accession of Carbon and the elements of water to form Albumen.

All writers, who have examined this subject minutely, agree in the statement that Coagulable urine has a much lower specific gravity than healthy urines, and Dr Gregory has given two tables containing the result of an equal number of trials with Albuminous and healthy urine. The average specific gravity in fifty cases was in healthy urine 1022.46 the highest being 1033 and the lowest 1005; while in the Coagulable urine the highest was 1023.5 and the lowest ~~and~~

1006.5. Dr Christison mentions a case in which the density was only 1004 and a specific gravity of 1003 was once met with by M. Martin Solon.

Among the symptoms of renal disease not strictly diagnostic may be mentioned pain and other local uneasiness; disordered digestion; derangement of the circulation with an altered condition of the blood; leucophlegmasia and a variety of secondary or incidental affections of textures and organs at a distance from the primary seat of disease: amongst which the most frequent are oedematous effusion into the cellular tissue; serous effusion into the serous sacs; inflammation of the serous membranes; bronchitis; diarrhoea, rheumatism and affection of the brain. In the acute form there is often great uneasiness and even pain in the region of the kidney, which is augmented by pressure in the lumbar regions. There is also much irritation of the urinary bladder which may be mistaken for disease of that organ. Anæmia and vomiting with deranged intestinal functions commonly accompany this form of the disease, which if not checked by prompt treatment will in

a few days terminate in the death of the patient or the acute symptoms subsiding assume a Chronic form. This form is not always the sequel of the acute disease but is often Chronic from the beginning - coming on very insidiously.

The patient at first complains of gradually increasing debility and other symptoms of ill health. He has also frequently slight irritation about the urinary organs compelling him to rise and empty his bladder several times during the night. The complexion is pale and of a peculiar waxy appearance; or at times characterized by a peculiar pale brownish dinginess of color. There is dryness of skin with thirst; disordered digestion; sickness in the morning on first awaking from sleep and frequently drowsiness.

Codes of detecting Albumen in urine.

Nitric Acid is a delicate test for the detection of Albumen and would be decisive did it not precipitate other substances sometimes present in the urine. It may contain Urate of Ammonia

or even Urea in excess and the addition of nitric acid alone would cause a precipitate of the nitrates of Ammonia or the Nitrate of Urea which are not readily distinguished by the naked eye from precipitated Albumen. But the effect of heat on these precipitates is very different. The nitrates of Ammonia and the Nitrate of Urea are soluble by heat, but the Nitrate of Albumen in dilute Nitric Acid is insoluble when heated. Hence after the precipitation by Nitric Acid heat should always be applied to prevent error. If the Nitric Acid alone gives no precipitate it is highly probable that no albumen is present. If there be a precipitate the same specimen should be boiled in a clean tube and if the precipitate is permanent the presence of albumen is quite certain. If the urine is cloudy it should be filtered before it is tested.

Another very delicate test is the Ferro-Cyanide of Potassium. Before using it the urine should be slightly acidulated with Acetic Acid. In the absence of other means it may be detected by evaporating a drop of urine on a piece of glass to which the Albumen if pres-

-but will adhere so firmly that it can hardly be detached. Besides the Albumen there is often present in the urine fibrin; pus-globules and blood-globules which may be detected by the microscope after the urine has been suffered to stand for ten or twelve hours.

Quay, Dr. B. H. Jones, "If pus globules are found with Albumen you may be certain that suppurative inflammation is going on, and if at the same time fibrinous moulds are seen, then probably Bright's Disease and inflammation of the pelvis of the kidney coexist."

Causes.

The following have been enumerated as causes of this disease:— intemperance; Confinement; exposure to cold and wet; unsuitable food; and violence inflicted on the loins. Sex is also said to afford a predisposition to it; males being more frequently affected than females— according to some writers in the ratio of 3 to 1; but this is attributed by others to the greater prevalence of intemperance among men and to their being more subjected to cold and atmospheric vicissitudes. Again age is considered a predisposing cause, as

it occurs most frequently in persons between thirty and fifty years of age. This undoubtedly has some influence; for it is well known that the urinary organs generally are more susceptible of disease in advanced than in early life; but it must not be forgotten that intemperance is also more prevalent in the former period than in the latter. Dr. Christison suspects that Bright's kidney happens chiefly in persons of voracious habit; and he found in several cases coincident with Phthisis Pulmonalis.

M. Wilson doubts whether this coexistence is more than casual and Dr. Bright coincides with him in this opinion.

Pathological Characters.

Dr. Bright mentions three morbid alterations of the kidney attended by albuminous urine.

The first is a state of debility of the organ characterized by loss of firmness of texture and presenting a yellow mottled or marbled appearance externally and when a section is made the same yellow color tinged with gray is seen to pervade the whole cortical portion and the color of the tubular portions is lighter than natural. In this state there is little

or no alteration in the size of the kidney and it contains no obvious morbid deposit. In the second form the Cortical portion becomes granulated throughout and contains a morbid interstitial deposit of opaque white matter and there is an increase internally of the natural mottled appearance as if fine sand had been sprinkled unevenly over its surface. When this deposit has become more abundant innumerable amorphous specks are seen on the surface, and if a section be made in this state a similar state will be found internally. The tubular portions are very little affected.

In the third form the exterior of the kidney is rough and scabrous to the feel and covered with numerous small yellow, red and purplish projections and its texture is almost as hard as cartilage. The tubular portion appears nearer the surface than natural as if the organ had contracted; and is infiltrated with the same Cheese like matter which characterized the Cortical portion in the second stage. Generally in this stage the kidneys are diminished in size although at times they are of the natural size and occasionally larger than natural.

When they are prematurely enlarged or diminished the increment or decrement takes place almost entirely in the cortical portion. Sometimes particularly in the earlier stage of the disease the kidney is soft and flabby and in the later periods hard and compact. In some rare cases it is studded externally and internally with small cysts containing a transparent fluid and resembling hydatids.

The bloodvessels are either empty or blocked up by a yellowish matter; and the veins emerging from the kidney are sometimes found filled with coagula of blood. There is another state entirely different from those already considered which is supposed by many to be the first stage of the disorganizing process. This is termed by Watson the state of sanguine congestion. The whole organ is gorged with blood and somewhat enlarged and flabby and of a dark red, chocolate or purplish color nearly uniformly diffused except that the cut surface is interspersed with dark starlike spots which have been ascertained to be the Malpighian glands engorged with blood.

Treatment.

In diseases of an unfavorable tendency practitioners are peculiarly prone to lay aside the common, well established rules of practice and use Common sense to search for specific remedies the existence of which they deny at least in theory. In the treatment of this as of all diseases general principles are to be followed - Causes as far as possible obviated and particular symptoms met by appropriate remedies as they arise. The patient should be kept from all exposure to cold and vicissitudes of the weather and the surface of the body kept warm. In the first stage there is frequently entire action requiring antiphlogistic treatment. The cutaneous secretions which are usually interrupted should be restored by the hot air bath and the cautious use of Antimonials. Medical opinion generally is against the use of Mercurials although recommended by some writers of distinction. Local depletion and Counter irritation by Tartar Emetic ointment and the cups are among the most valuable remedies. Venesection should be practised with the greatest caution on account of the impoverished condition of the blood. Blisters from their



hability to produce gangrene should be avoided.

As a means of eliminating fluids from the system the drastic Cathartics are valuable. Of these the fresh juice of the *Sambucus Nigra* has been highly recommended and also the *Elatium*. Dr Heaton prefers the Castor Oil to *Elatium* as it produces less sickness and discomfort. Dr Williams recommends Cream of Tartar combined with Jalap as a substitute for *Elatium*. Dr Bright used much upon the Superlustrate of Potassa & Tartrates are often indicated and of these the Extract of *Hyoscyamus* is the best as it does not tend to check the secretions.

If diuretics are employed those should be selected which do not stimulate the kidneys excessively, as the Bitartrate of Potassa and Digitalis.

When the head is affected Prof. Juss has found much benefit from a Combination of Digitalis and *Santhali*ides. The Lactic Acid is a valuable remedy when there is but little febrile excitement present.

Dr. Eli Juss Chairman of the Committee on Indigenous Medical Botany in his Report published in the Transactions of the American



Medical Association for 1850 recommends the Epigean
 rapens as a valuable remedy in this and other diseases
 of the urinary organs. In regard to its efficacy he
 holds the following language:—"This plant is recom-
 mended to the notice of the Society as a remedy
 peculiarly adapted for the cure of Bright's dis-
 ease of the kidneys or any disease accompanied
 with Albuminous urine. It is moderately astring-
 ent and diuretic, acting in a special manner
 on the kidneys and the membrane of the bladder
 and urethra and is allied in its properties to
 the *Uva Ursi*. It is best administered in de-
 coction of the strength of $\mathfrak{z}\text{i}$ of the dried leaves
 to a pint of water, giving a wineglassful at a dose.
 This report contains the statement of several cases
 of Albuminuria in which this remedy proved
 effectual after the ordinary diuretics had fail-
 ed.

In the Chronic form of this disease, unaccom-
 panied with febrile action Dr Heaton says "no medi-
 cines are equal to the preparations of Iron" and
 Dr Kies coincides with him in this opinion.



Sometimes the oppression from the fluid becomes so great as to endanger the life of the patient when mechanical means must be resorted to for its removal. Of these the most approved are paracentesis of the chest or abdomen and (in Anasarca) acupuncture. A great quantity of fluid can be evacuated by making only a few punctures. These should be as near the trunk of the body as practicable and neither deep nor near each other. If they are below the knee there is greater danger of gangrene than if they are above it.

Robert Hubbard

~~XI.~~

(Dissertation

on

Uterine Hemorrhage after Delivery,

by

Matthew Turner Newton,

of Colchester,

Candidate for the Degree of Doctor in Medicine,

at the

Annual Examination,

1851.



Uterine Hemorrhage after Delivery

This is a subject of the greatest interest to the practitioner of Medicine; and it is necessary that he should be possessed of a full knowledge of its Causes, symptoms, and treatment, to insure him success in this hour of imminent peril. His presence of mind should never forsake him, for upon this based upon a true knowledge may depend the life of his patient. A want of coolness, self-possession and quick thought on the part of practitioners, who are otherwise well qualified, has cost the lives of thousands. And if there is any one event in the whole routine of professional duty, calculated to strike terror into the heart of the physician, and for a moment paralyze his best energies, it is a case of flooding after the birth of the child. One moment of hesitation or doubt on the part of the practitioner, one moment spent



in considering what remedy will be efficient in a given case, and, it may be time spent which had it been rightly employed would have been the means of saving one from the list of those who have perished by Uterine Hemorrhage -

Causes.. When the Placenta separates from the Uterus numerous blood vessels are opened which if not closed will pour out blood to a greater or less extent.. The means which nature has adopted for closing these vessels is, Contraction of the Uterus in such a manner, that its fibres act as a ligature upon the divided vessels: but its fibres may become inactive, or its contractile powers impaired or impeded, in which case blood must certainly flow.

From this view, it is evident, that the immediate Cause of Uterine Hemorrhage is separation of the Placenta from the Uterus. The Uterus not contracting so as to close the mouths of the divided vessels.

Symptoms. The Hemorrhage may be either external, or internal and concealed. If it be external we cannot mistake in our diagnosis, but if internal the diagnosis is more difficult. For without careful attention death may ensue before we are aware of the cause. Yet if there be internal hemorrhage, by proper examination we shall be able to detect it. We shall find by laying our hand over the uterus, that it is distended soft and flaccid, and by pressure upon it blood will be expressed externally.

There will be the ordinary symptoms of hemorrhage. The color vanishes from the cheeks and lips, the pulse becomes slower the extremities cold, the breathing becomes laborious and drawn with sighs. There may be sickness at the stomach, perhaps vomiting fainting may supervene, jactitation, perhaps convulsions and death.

Treatment. The first indication is to produce regular and permanent contraction of the uterus. It is evident that the uterus cannot

contract perfectly until it is emptied of its contents. If therefore the Placenta is partially or fully detached from the Uterus and not expelled from its cavity the vessels must remain open and more or less blood will escape. Our first effort then should be to remove the Placenta, and thus free the Uterus of its contents. It may be retained by three different causes, each acting separately or two conjointly. These are - first: Atony of the Uterus. Second: Irregular Contractions. Third: Morbid adhesions. If it be retained by Atony of the Uterus and the hemorrhage is not very profuse, we should try some of the means hereafter to be mentioned to promote contraction, hoping by this to expel it without a harsher operation. But if the hemorrhage is profuse and the Placenta is not expelled in the course of twenty minutes, it must be extracted by manual force. This can sometimes be accomplished by slight traction upon the



umbilical Cord. but force exerted upon this must be slight, and if it will not accomplish what is desired, The hand must be introduced. To effect this we grasp the Cord in the right hand, and having the left hand and arm bare and well lubricated, we gather the fingers into the form of a Cone. introduce The hand into the vagina, following the Cord up till we reach the Placenta which may be found lying partly in the vagina or wholly in the cavity of the uterus. The fingers should now be insinuated between the uterus and the Placenta over its whole surface until it is wholly detached. Whenever the hand is introduced the uterus should be supported externally, either by the other hand or by the hand of an assistant. otherwise it will roll about in the abdominal cavity, impeding our operations.

After the detachment of the Placenta the hand should not be immediately withdrawn

but allowed to be expelled with the Placenta by Contractions of the Uterus; at the same time friction should be made externally over the region of the Uterus. When the Placenta is withdrawn it should be examined whether it be entire or whether any portions have been left within the Uterus, as, such being the case, the result would be violent after pains and much constitutional disturbance. The second cause of retained Placenta is irregular Contractions. This generally happens when the Uterus has acted violently and the Child has been quickly expelled. These Contractions may be of various kinds. Sometimes it contracts globularly on the Placenta the Osuteri being nearly or wholly closed. Sometimes with a corner forming a sack containing a greater portion of the Placenta within it. At others the central fibres contract leaving the funiculus and

neck uncontracted, forming what is called The Hourglass Contraction

The indications here are to relax the irregular contractions, remove the Placenta and produce regular contractions. The irregular contractions are to be overcome either by administering internal remedies, which will relax the muscular fibres; or by introducing the hand and dilating the contracted portion.

Generally the hemorrhage is not so violent as in Atony of the Uterus, hence we may have time to try the effect of some internal remedy. Our principal remedies are opium and Ipecac Emetic in small and repeated doses. If these fail or if the hemorrhage is profuse, we must not delay introducing the hand as before, into the vagina carrying it up to the mouth of the Uterus, or till we reach the constriction, which we dilate in the most gentle manner, by passing first one finger and

and then another with a rotary motion till the contracted portion is dilated.

We then grasp the hand around between the uterus and the Placenta, to find whether the latter is attached at any part, and gathering into the hand we remove it. The Third Cause of retention of the Placenta is from morbid adhesions. This is caused by a deposition of coagulable lymph. The result of inflammation of the lining membrane of the uterus during pregnancy.... Treatment

These adhesions are to be separated by manual force, by introducing the hand into the uterus as before directed, and finding the sage which has been separated, we insinuate the finger between the Placenta and Uterus, with a sawing motion, till we find it is wholly detached. Great care should be taken that no portion is left, remaining as will often happen in these cases.

unless precautions are taken to prevent it.

I shall next speak of The General Remedies
for the suppression of Uterine Hemorrhage
The patient may now be turned upon her back
her hips should be slightly elevated, she
should be covered lightly. The room should
be cool and well ventilated, and every
thing done to preserve physical and
mental quietude. Immediately after the
birth of the child, a bandage should be
applied around the abdomen of the patient
extending from the epigastrium to the os pubis
and secured by several strong pins
Some recommend a pad to be placed
over the uterus and secured by the bandage
that a greater degree of pressure may be exerted
But when the hemorrhage is profuse, this will
be less efficient than grasping the uterus
with the hand through the abdominal parietes
this prevents the uterus from becoming distended
with blood, in part, for the time closes
the mouths of the bleeding vessels, and.



and stimulates it to contract. One of the most efficient means we have for arresting hemorrhage is cold, and this may be applied in various forms. Either cold water, or ice, or cloths saturated with vinegar and water may be applied to the abdomen over the region of the uterus, and neighboring parts. It has been found that cold applied suddenly and with a shock, is more effectual in producing contraction than when otherwise applied. To carry out this law the hand may be dipped in cold water and applied suddenly to the bare abdomen, or what is perhaps more effectual than all the "Cold Douche". To apply this the abdomen should be laid bare, then with a pail of cold water, held at the height of several feet, short and successive streams may be allowed to fall upon it. Ice introduced into the uterus, or injections of ice water by the vagina are found of great benefit

Ergot of Rye has been recommended by some
Acetate of Lead. This owes its value to its astringent
and sedative properties and is an excellent
remedy in many forms of hemorrhage; it
may be given internally, or a solution
may be injected into the uterus. Ham
is another of the astringents, and this
may be used by injection of a solution, or
a solid piece may be introduced into
the uterus. Compression of the abdominal
aorta, is a valuable remedy when it can
be applied, and it generally can to some
extent at least, as the abdominal muscles
at this time are in a lax condition. This
can not be expected to act as a cure it
self, but to restrain the vital fluid till we
can make use of other remedies, Galvanism
has sometimes been used beneficially. This
appears to be peculiarly applicable after the
escape of a large quantity of blood attended
with syncope and convulsions, pulse
imperceptible and cold extremities

Application of the child to the mother's breast often proves a commanding remedy in promoting contraction of the uterus and should be made as soon after the birth of the child as practicable.

Stimulants must be resorted to when necessary to sustain the vital energies but are to be used with a great degree of caution.

On these cases perhaps opium is of all remedies the most valuable, it may be given in two grain doses combined with the stimulating drinks as wine or brandy.

The domestic treatment here is not powerful and is often very convenient as the Pennyroyal tea, Nutmeg &c &c together with heat to the extremities.

Not infrequently after contraction has been produced, and the hemorrhage has ceased, relaxation may occur and the bleeding reappear. To prevent this



we firmly grasp the Uterus through the abdominal parietes, till we feel it contracting. Then take a small bowl or basin of the capacity of twelve or fourteen ounces and move it over the body of the compressed Uterus, taking care that the whole of it be secured within its cavity and the vessel confined to this position, firmly and steadily, with a bandage.

Thus treated it is impossible for the Uterus again to distend.

Transfusion has sometimes been recommended. but the idea of conveying life from one individual to another is more beautiful in Theory than available in Practice.

Much more might be written on this subject but I have summarized the principle indications and remedies and shall leave further discussion to those older and abler than I.

M. Turner, Newton.



~~XII.~~

Dissertation

on

Hysteria

by

William Soule

of Chaplin,

Candidate for the Degree of Doctor in Medicine,
at the

Annual Examination,
1857.

Hysteria

The subject which I have chosen as the theme of my dissertation is one of some interest to the practitioner of Medicine from the frequency of its occurrence and from the endless variety of forms and shapes which it assumes being capable of simulating almost every other form of disease

Hysteria is generally considered to be essentially a disease of the nervous system manifesting itself by certain morbid phenomena in every sensitive and irritable part of the system, in the voluntary and involuntary muscles, in the sensorial organs, the digestive apparatus.

in short it is said to present in its numerous symptoms nearly every morbid sympathy of which the animal system is susceptible.

There are generally considered to be three modifications of Hysteria or even more than this according to some authors. but for convenience of description Watson reduces them to two, the convulsive or paroxysmal and the non-convulsive and insensible form, which opinion in the present instance we will adopt.

1st The convulsive or paroxysmal form in which the symptoms resemble somewhat an epileptic fit. The trunk and limbs of the patient are agitated by strong convulsive movements. They will rise into a sitting posture, and then throw themselves back again, forcibly flexing and extending the limbs, while the body is twisted from side to side, and sometimes these muscular contortions are so violent, and powerful, that three or four persons may be required.

to restrain even a slight girl.

The head is generally thrown backwards the chest projecting forwards. The commencement of the paroxysm is generally sudden and frequently it terminates as suddenly.

Sometimes the fit consists in violent and convulsive laughing, alternating with crying and screaming, rapid and incoherent talking with suffocating spasms of the throat or a sensation compared to the rising of a ball in the throat causing the respiration to become hurried and a feeling of suffocation to come over the patient. Occasionally these symptoms will subside without terminating in convulsions but more commonly violent convulsions such as I have named speedily follow.

When the paroxysm ceases the patient is left in an exhausted condition which in an hour or two wears off leaving a feeling of general soreness and sometimes pain in the head and uneasiness at the stomach.

This form of hysteria is more commonly met with in robust females and may occur as the consequence of some disagreeable mental emotion or the sudden suppression of the catamenial discharge.

The second variety is that in which the patient without any spasmodic affection sinks into a state of complete insensibility. She will be found upon her back with the limbs relaxed and extended the eyes closed the jaws generally firmly locked. In this state they may continue several hours a whole day or even more when it generally passes off suddenly. The patient is described to awake as if from a deep sleep to look about with an air of surprise and soon recover the possession of her faculties.

After the fit has subsided the patient will discharge large quantities of pale limpid urine. This form of hysteria may occur in females in consequence of some

violent-mental emotion or according to some authors from taking heavy and indigestible food during the catamenial period

Of the pathology of this disease I can say but little except that it is chiefly confined to females. It never occurs in children nor in persons of very advanced age. Its range is confined to the period between the commencement and the cessation of the uterine functions.

From this cause some writers have inferred that the proximate cause of the disease was situated in the womb as the name would seem to imply.

But the common opinion among writers of the present day is, I think, that wherever the irritation tending to it may exist, the proximate ^{cause} of Hysteria is in the brain and not the uterus.

Causes. Among the predisposing causes of this disease may be mentioned a



peculiar constitutional diathesis showing itself in a delicate and relaxed habit of body, light hair and eyes, fair skin, lively intellect and an early sexual development.

Very often however a predisposition is acquired from other causes as indolence sedentary habits or too high a mode of living or by exciting the imagination by perusing works of fiction calculated to call forth the strong emotions of the mind.

Among the immediate and exciting causes the exercise of the violent passions anger, grief, fear, disappointed love and the sight of others suffering from the same disease in short anything that strongly affects and agitates the mind.

In persons predisposed to Hysteria a paroxysm may be excited by taking into the stomach indigestible and irritating articles of food. Excessive evacuations also or the sudden suppression of any accustomed evacuation may prove an exciting cause.



we then come to speak of the treatment of this affection the principal indications of which are 1st - to remove if possible the local and irritating cause and 2nd - To away the morbid excitement of the nervous system by anodynes and antispasmodics.

In that variety in which the patient lies in an insensibile and torbid state the exhibition of an emetic might be of service to dispel the attack. The injection into the rectum of cold or ice water or pouring cold water upon the face frequently is serviceable in bringing the paroxysm to a close. It is generally the case that there is a determination of blood to the head in the hysterical fit - which is shown by the suffused and turgid face the bloodshot eyes the distention of the jugular veins and the throbbing of the carotid and temporal arteries. If in addition to this the pulse be found full and dense and the general habit of the patient - plethoric. I should

consider it sufficient evidence that blood letting was indicated and act accordingly.

In the exhibition of internal remedies it is of consequence to ascertain if possible the nature of the exciting cause. If it be found to consist in irritation of the stomach from acrid and indigestible articles of food an emetic should be immediately administered and vomiting excited as speedily as possible after which a full dose of some anodyne mixture should be given.

When the paroxysm is excited by some mental emotion narcotic and antispasmodic remedies are the proper treatment. It is sometimes impossible to get these medicines into the stomach on account of the inability or unwillingness of the patient to swallow.

When this is the case an antispasmodic enema should be resorted to, some have recommended to excite the olfactory nerves by stimulating substances. But Dr Dewees considers the practice of very

doubtful propriety. In plethoric subjects with much determination of blood to the brain he would consider it manifestly injurious.

In the management of hysterical patients a light-irritating and digestible diet should be insisted upon together with regular but not fatiguing exercise by walking or riding in the open air.

Such is I am aware a very imperfect description of one of the most variable and often perplexing diseases with which we are acquainted



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